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JPRS Report

Soviet Union

Economic Affairs

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Economic Affairs

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CONTENTS

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NATIONAL ECONOMY

ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Methodology Behind 'Cunning Statistics' by Selyunin, Khanin Challenged [M. Yuzbashev, T. Agapova; <i>VESTNIK STATISTIKI</i> , Mar 88]	1
Continued Ministry Stewardship Over Enterprise Criticized Enterprise's Complaint [V. Ivanov and N. Kozlov; <i>EKONOMICHESKAYA GAZETA</i> , No 10, Mar 88]	3
Ministry's Response [A. Dobrozhanov; <i>EKONOMICHESKAYA GAZETA</i> , No 17, Apr 88]	5

PLANNING, PLAN IMPLEMENTATION

Growth Rates Reviewed in Light of Upcoming Party Conference [B. Pavlov; <i>EKONOMICHESKAYA GAZETA</i> , Apr 88]	5
Gosplan Collegium Recommends Further Work on Long-Term Plans [<i>PLANOVOYE KHOZYAYSTVO</i> , No 4, Apr 88]	13
Gosplan Official Describes Formation, Use of Normatives [G. Kiperman; <i>PLANOVOYE KHOZYAYSTVO</i> , No 3, Mar 88]	16

INDUSTRIAL DEVELOPMENT, PERFORMANCE

CPSU Official Interviewed on Chemical Industry Developments [V. Afonin; <i>SOTSIALISTICHESKAYA INDUSTRIYA</i> , 23 Mar 88]	21
---	----

REGIONAL DEVELOPMENT

Kirghiziya's Dzhumagulov Interviewed on Ministry, Oblast Changes [<i>SOVETSKAYA KIRGIZIYA</i> , 25 Mar 88]	28
USSR Finance Official Responds To Kirghiz Budget Roundtable [S. Gorbachev; <i>SOVETSKAYA KIRGIZIYA</i> , 25 Mar 88]	32
Tajikistan's Khayeyev on Ministry Reorganization Proposal [I.Kh. Khayeyev; <i>KOMMUNIST TADZHIKISTANA</i> , 29 Mar 88]	33

AGRICULTURE

AGRO-ECONOMICS, POLICY

Gosagroprom Deputy Explains Credit, Finance Under New Conditions [S. B. Valter; <i>EKONOMIKA SELSKOKHOZYAYSTVENNYKH I PERERABATYVAYUSHCHIKH PREDPRIYATIY</i> , No 3, Mar 88]	38
---	----

CONSTRUCTION

POLICY, ORGANIZATION

Restructuring the Financial Mechanism in Construction [A. V. Brezhenko; <i>EKONOMIKA STROITELSTVA</i> , Apr 88]	45
--	----

CONSUMER GOODS, DOMESTIC TRADE

POLICY, ORGANIZATION

- Production Reorganization in Light Industry Discussed
[*L. Shchennikova, V. Lopatin; PLANOVOYE KHOZYAYSTVO, No 3, Mar 88*] 51
- Economist Cites Ways to Curb Trade Deficit [*A. V. Orlov; NEDEL'YA, No 5, 1-7 Feb 88*] 60

ENERGY

FUELS

- Petroleum Minister Reports to Collegium on Perestroyka
[*NEFTYANOYE KHOZYAYSTVO, Apr 88*] 63
- Restructuring in Azerbaijan Oil Industry
[*AZERBAYDZHANSKOYE NEFTYANOYE KHOZYAYSTVO, No 1, Feb 88*] 68
- New USSR Petroleum Industry Council Holds First Session
[*G. Topuridze; NEFTYANIK, Mar 88*] 71

ELECTRIC POWER GENERATION

- Ensuring Nuclear Power Station Safety [*V. Antonov; PRAVDA, 5 May 88*] 72
- Technical Power Engineering Trends Outlined
[*L.G. Mamikonyants; ENERGETIK No 3, Mar 88*] 74
- Thermal Power Station Retooling, Modernization
[*F.L. Kogan, V.A. Valitov, et al; ENERGETIK No 3, Mar 88*] 78

HUMAN RESOURCES

EDUCATION

- Statistics on National Education Detailed [*VESTNIK STATISTIKI, No 3, Mar 88*] 81

MACHINEBUILDING

AUTOMATION, AUTOMATED SYSTEMS

- Automation, Computerization of Inspection Work Urged
[*M. Malikova; EKONOMIKA I ZHIZN, Mar 88*] 84

TRANSPORTATION

CIVIL AVIATION

- New Approach to Accident Investigation [*V. Smykov interview; PRAVDA, 5 Apr 88*] 86

MOTOR VEHICLES, HIGHWAYS

- Deputy Minister Reviews Self-Financing in Auto Industry
[*V. V. Novikov; AVTOMOBILNAYA PROMYSHLENNOST, No 3, Mar 88*] 88

RAIL SYSTEMS

- Problems Impede October Railroad [*Yu. Kholodov; LENINGRADSKAYA PRAVDA, 5 Jan 88*] 92
- Center-South High-Speed Rail Line Project [*Ye. Sotnikov; RABOCHAYA GAZETA, 17 Dec 87*] 94
- Chekhov Metro Station Opens [*A. Yusin; PRAVDA, 31 Dec 87*] 94
- Inspector Cites Moscow Metro Problems [*B. Shokhin; MOSKOVSKAYA PRAVDA, 29 Dec 87*] 96

ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Methodology Behind 'Cunning Statistics' by Selyunin, Khanin Challenged

18200142 Moscow VESTNIK STATISTIKI in Russian
No 3, Mar 88 pp 66-68

[Article by M. Yuzbashev, doctor of economics, and T. Agapova, post-graduate student, Leningrad Agricultural Institute: "On the 'Methodology' of the Essay 'The Cunning Figure' (From the Report of Professor T. Kozlov at the All-Union Conference on Statistics, 22 Dec 1987, Moscow)"]

[Text] The essay "The Cunning Figure" (NOVYY MIR, 1987, No 2) has been subjected to criticism in three letters published in the journal VESTNIK STATISTIKI under the general title "Apropos a Cunning Article About Figures."¹ In them it was correctly pointed out that the essay mentioned lacks an exposition of the essence of the methods the authors used to reach their conclusions, conclusions that are not supported by the facts.

In the note "Statistics Knows Everything? (NOVYY MIR, 1987, No 12), V. Selyunin and G. Khanin finally named the source of the methods on which they showed praises so generously in the essay.

This source is the articles of G. Khanin "Alternative Estimates of the Results of the Economic Activity of the Production Cells of Industry" and "Ways of Perfecting the Information Provision of Consolidated National Economic Plan Settlements,"² in which it is proposed to use the method of the so-called "average" among the alternative estimates for the measurement of the changes of the indicators in time.

This method rests on the following three tenets: 1) On the basis of the available data a number of alternative estimates of the change of one and the same indicator are developed; 2) since every individual alternative estimate has certain shortcomings, the average, simple arithmetic (unweighed) estimate of several alternative estimates is used as the measure of the change of the indicator³; 3) to obtain the alternative estimates, primarily physical indicators are used, or those value indicators that are minimally subject to the influence of price changes.

The method of the "average" from among alternative estimates, based on the premises set forth, is theoretically untenable and therefore unfit for practical use. One can easily convince oneself of this on the example of the examination of the "method" of the determination of the change in the volume of industrial production. For this purpose, it is proposed in the articles to use the following six alternative estimates: On the basis of a selection of physical indicators with weighing according to the labor intensiveness of production; on the basis of the relation between the change of the production cost of

the commodity production being compared and the dynamic of labor productivity; proceeding from the dynamic of the consumption of raw material and materials (without completeness); on the basis of the correlation between the change in electric power consumption per worker and the change of the level of labor productivity in the industry of the United States (emphasis by the editors); proceeding from the level of the fulfillment of plan tasks according to production output volume in physical terms; and proceeding from the change in the correlation between the production cost of products being exported and the export earnings for these products (in unchanged world prices).

The enumeration of alternative estimates represents an arbitrary conglomerate of heterogeneous elements, the determination of the average one of which is the destruction of the most elementary foundations of statistical science. Indeed, it is generally known that the average magnitude of "is always the average of many different individual magnitudes of one and the same type,"⁴ and not a selection of the most different heterogeneous elements.

A methodological error of a fundamental character is permitted by the author when he determines averages on the basis of data characterizing the capitalist mode of production and data characterizing the socialist mode of production. As is well known, V. I. Lenin considered averages of this sort to be unscientific, he called them fictitious and unfounded. Thus, noting in the work "What the 'Friends of the People' Are and How They Fight the Social Democrats" that the farm of the peasant who lives exclusively by his agriculture and employs a farm-hand without a doubt differs in type from the farm of the peasant who lives from hiring himself out as a farm-hand and receives three-fifths of his earnings from farm labor, Lenin writes: "Judge for yourself what kind of 'science' will result if we lump together farm-hands and farmers who employ farm-hands, and make use of a **general average!**"⁵ (Emphasis by editors)

G. Khanin permits the grossest errors in the determination of his alternative estimates. For example, he proposes to calculate the labor productivity growth rate on the basis of the growth rate of average wages, the share of wages and deductions for social insurance in the production cost of products and the growth rate of the production cost of the commodity production being compared.⁶ Above all, we note that the level of labor productivity cannot be determined on the basis of data on wages and the production cost of commodity production. For this reason, the formula cited on p 66 is in essence incorrect. It is also impossible to carry out calculations of indexes on the basis of growth rates. This is evident from the following. Let us assume that the growth rate of wages came to 3 percent, the share of wages and deductions for social insurance in the production cost of commodity production amounts to 20 percent, and the growth rate of the production cost of commodity production is equal to minus 1 percent. Having put these data into the

formula proposed by the author,⁷ we will get: The growth rate of labor productivity = $3 \times 20 / -1 = -60$ percent. Thus, the index of labor productivity is equal to 0.4, or 40 percent. Hence it follows that, providing there is a reduction in the production cost of the average wage, the index of labor productivity will always be significantly less than one, and for this reason the product of this index times the index of the number of workers, which G. Khanin proposes to do for the determination of the production volume index will, as a rule, show not growth, but a reduction of the production volume, moreover an extremely significant one.

Citing data of the United States, the author includes in his conglomerate of alternative estimates the indicator of the change of expenditures of raw material and materials for the output of production, thinking that even in our conditions once can judge about the growth of production volume on the basis of its increase. But this indicator in the new conditions of management in our country, where the method of eliminating overexpenditures should find broad dissemination, will inevitably lead to the reduction of the index of raw material and material expenditures, even if there is an increase in the volume of production output.

G. Khanin (in the articles mentioned above) proposes to use the method of the "average" of the alternative estimates for the characterization of the change in time of many economic indicators, including with the use of data of the United States. But all of them are unsound, since they are obtained from a heterogeneous conglomerate of indicators, the overwhelming majority of which does not rest on a scientific basis or contain errors of a factual character. Thus, for the characterization of the change of the work of USSR motor freight transport, the use of the "average" of three alternative estimates is proposed, including data of the United States on the correlation between the growth of motor freight transports and the growth of the national income during the period 1961-1970, which is taken as the standard one, proceeding from the fact that by its beginning the process of the replacement of railway freight transports by automobile transports supposedly had basically been completed,⁸ although this does not correspond to the facts. This is indicated by data on the growth of freight turnover of the United States railways from 1960 to the present time. Thus, the freight turnover of United States railway transportation came to 1,350 billion tariff ton-kilometers, which in relation to the freight turnover of railway transportation amounts to 35.2 percent and exceeds the turnover of the railways of Great Britain (without Northern Ireland), Italy, FRG, France, and Japan, taken together, by a factor of 7.5. (The freight turnover of the railways of the USSR in 1960 came to 858 billion tariff ton-kilometers, and in 1970—1,143 billion ton-kilometers.⁹

The method of the "average" of the alternative estimates (indicators) G. Khanin counterposes to, in his words, the

traditional methods of determining the change in time of the economic indicators being used in Soviet statistics, i. e., to the indexes.

What is lacking in the articles mentioned is an exposition of the reasons why it is necessary to repudiate the indexes, on the determination of which V. I. Lenin¹⁰ insisted in his time. One can only conclude from the content that the author believes the indexes being used in Soviet statistics to be scientifically unsound, and for this reason unfit for practical use.

But this is a profound error, based evidently on an insufficient acquaintance with the numerous works devoted to indexes.

Two propositions, formulated and widely used in the works of the classics of Marxism-Leninism, serve as the theoretical basis of indexes. First of all, the proposition that an aggregate consisting of directly incommensurate elements, for example industrial production in its physical terms, can be brought to a commensurable type through finding a common measure for them. "... Various things become quantitatively comparable only after they are reduced to one and the same unity. Only as an expression of one and the same unity are they of the same name and, consequently, commensurable magnitudes."¹¹

Secondly, for the exposure of the change of one of the many factors determining the overall result, it is necessary to abstract from the change all other factors except the one being examined. This is the method applied by K. Marx in his works, in particular in the research on the dependence of the relative magnitude of the price of manpower and surplus value.¹²

The use of these, from the theoretical point of view unquestionable, propositions in the practice of calculating the indexes of concrete indicators encounters certain difficulties, the overcoming of which is connected with the use of a number of additional methods of calculation. For example, for the calculation of the index of the physical volume of production they use commensurate (unchanged) prices in practice during a certain period. Since during the period of their effectiveness new types of products make their appearance, some time will inevitably have to be used to estimate the new types of products either at accounting or temporary prices. For this reason it is necessary from time to time to change comparable prices, recalculating the indexes for prolonged past periods through the multiplication of linked indexes, which in the presence of differences in the comparable prices of two adjoining periods can lead to insignificant inaccuracies that are completely permissible in any practical statistical work. Insignificant inaccuracies can also take place in the calculation of some other indexes of overall economic indicators: Prices, production cost, and labor productivity. This is caused by the fact that in practice we must deal with a colossal mass of data and the changes taking place in them from

time to time. But whatever the errors of the indexes, they cannot be compared with the discrepancies of the data of the official state statistics and the data obtained by the authors of the essay "The Cunning Figure" on the basis of the use of the "average" of the alternative estimates.¹³ And no matter how the authors of the essay shower praise on their "subtle" methods of calculation, they will not convince anyone among those who know the foundations of statistical science of the trustworthiness of the results obtained by them. This is all the more so correct since the authors limited themselves only to statements concerning the trustworthiness of their calculations, not having supported them with any statistical calculations. And they could not have done so, following their erroneous methodology.

In the words of Lenin, "Statistics are not the sort of thing that can be dismissed with catch-phrases or exclamations, and deception is at once exposed."¹⁴

In conclusion it can be said with good reason that V. Selyunin and G. Khanin, as this follows from everything that has been said above and from the previously published three letters in the journal VESTNIK STATISTIKI, without substantiation "flog" Soviet statistics for 14 pages.

Footnotes

1. Cf. No 6 for 1987.
2. Cf. IZVESTIYA AN SSR, Seriya ekonomicheskaya, 1981, No 6; 1984, No 3. The author naively thinks that on the average the shortcomings of some alternative estimates are cancelled by the shortcomings of others.
4. K. Marks and F. Engels, "Soch." [Works], Vol. 23, p 334.
5. V. I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 1, p 225.
6. Cf. IZVESTIYA AN SSSR, Seriya ekonomicheskaya, 1981, No 6, p 66.
7. Cf. *ibid.*
8. Cf. IZVESTIYA AN SSSR, Seriya ekonomicheskaya, 1984, No 3, p 62.
9. Cf. "Narodnoye khozyaystvo SSSR za 70 let. Yubileyny statisticheskiy yezhegodnik/Goskomstat SSSR" [The National Economy of the USSR After 70 Years. Anniversary Statistical Yearbook/USSR State Committee for Statistics. (Moscow: Finansy i statistika, 1987), 114.
10. Cf. V. I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 52, pp 214-215; Vol 53, pp 121-123; Vol 44, p 114.

11. K. Marks i F. Engels, "Soch." [Works], Vol 23, pp 58-59.

12. Cf. *ibid.*, pp 528-539.

13. We note incidentally that G. Khanin allotted the method of the "average" from the alternative estimates an extremely modest role. In his words, this method makes it possible to define more precisely only some conceptions that have developed about the trends of the development of the Soviet economy and the correlations of some models of the economic mechanism (cf. IZVESTIYA AN SSSR, Seriya ekonomicheskaya, 1984, No 3, p 65), but not at all to repudiate them completely, as this was done in the essay "The Cunning Figure."

14. V. I. Lenin, "Poln. sobr. soch." [Complete Collected Works], Vol 25, p 60.

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8970

Continued Ministry Stewardship Over Enterprise Criticized

Enterprise's Complaint

18200148 Moscow EKONOMICHESKAYA GAZETA in Russian No 10, Mar 88 p 5

[Report by EKONOMICHESKAYA GAZETA correspondents V. Ivanov and N. Kozlov from Lipetsk: "Under Stewardship Just the Same"]

[Text] Viktor Kirillovich Khanin, manager of the "Tsentrolit" plant in Lipetsk, returned to the plant from the ministry in high spirits. He believed that he had won a valuable victory—he had managed to prove that the "paper" plan which had been worked out for the plant in the Minstankoprom [Ministry of the Machine Tool and Tool Building Industry] was absolutely unacceptable.

In fact, the ministerial calculation was based on "ceiling" production volumes. They had planned for the plant to acquire output valued at 3 million rubles in a shop which did not yet exist. Only the name exists—"Small Castings Shop No 2." The USSR Minstankoprom stopped construction of the shop as far back as 1986. More than a million rubles of equipment, materials and structures proved to be "frozen" in the practically completed building. The reason? The ministry decided to reconfigure the small castings shop to turn out moldings of high-strength cast iron, which are needed critically in machine building.

But neither one exists yet. It is not known when work will be resumed at the project or if work will be resumed in general. All the same, they are putting nonexistent output for an imaginary shop in the plan for the plant: 3 million rubles for 1988, 4.7 million rubles for 1989, and so forth.

Quite recently it was practically impossible to repel such "planning fantasies." Now V. Khanin had managed to do it.

Let us not be in any hurry, though. The Lipetsk manager defended the plant's proposal for a production plan, but on the other hand, they forced him to retreat in another area.

The Glavlitprom [presumably: Main Administration for the Foundry Industry] (I. Rasponin, chief) tried to plan the state order for the Lipetsk plant so that it would not have even the slightest opportunity for maneuvering independently. Not only the total volume of the enterprise's basic output, but even metal scrap (assigned by types of metals and alloys and in the exact number of tons) was included in the state order.

Among the economic norms set for the plant for 1988-1990, we see the "norm for amortization deductions for full restoration of the ministry's reserve." These deductions were suggested for the plant: 22.39 percent of the amortization capital for 1988, 54.35 percent for 1989, and 29.07 percent for 1990.

Commenting on this decision by the ministry, Nina Semenovna Shevchenko, deputy chief of the plant's planning department, said: "In conformity with the Law of the USSR on the State Enterprise, all assets of the amortization fund should be left completely at the plant's disposal. Otherwise, how do we restore the fixed capital? After all, we have hardly any other assets left. All foundries, including our plant, are not very profitable, and our profit is minimal..."

That is correct. The profitability of the "Tsentrolit" plant in Lipetsk is 9.5 percent. Only 3.5 million rubles of profit were acquired in the past year. This year they are planning to increase it to 4,193,000 rubles. In fact, the Lipetsk plant has been considered a "beacon" thus far, and there are foundries in the sector with even minus profitability.

They see their resources at the "Tsentrolit" plant in Lipetsk. A program for increasing profitability has been thought through and is already being materialized in specific matters.

They believe at the plant that it is necessary to sharply reduce the expenditure of funds on capital repairs by the contract method and to organize maintenance through their own efforts. They have estimated the annual savings at a half million rubles. And if the quality of casting accessories is improved—by utilizing plastic, for example? It turns out that the production cost of casting may be reduced by another 200,000 rubles...

It was decided to develop the rough machining of castings. This is very advantageous both for the customers and for the "Tsentrolit" plant. The machine builders receive more accurate blanks from the foundry workers, and the latter receive up to 200,000 rubles in additional profit.

And more. Last year the losses from defective output at the plant amounted to a significant sum—800,000 rubles. Isn't this really a reserve for adding to profit?

Exploratory thinking in the plant's "brain center"—its economic departments—is intensive these days. The enterprise's communists have discussed the problems of introducing cost accounting at a plant party conference. The plant newspaper LITEYSHCHIK informs the labor collective from one issue to the next how the schedule for casting output is being fulfilled for the machine building plants and about the obstacles to cost accounting...

And there still many obstacles. Casting production will continue to be an input economy for now: the more "tons" they cast at the plant, the larger the wage fund and the higher the labor productivity and other indicators.

But evaluation of work in tons now "lies across cost accounting." It is not profitable for the collective to improve the technology in order to save metal and reduce the weight of unfinished work pieces. Let us say more. Under conditions where "input" price list No 25-01, "Wholesale prices for castings, forgings and hot stampings," continues in effect, any attempt to reduce the input of materials turns into losses for the collective.

"Cost accounting has put the 'ton' outside the law," we were told by the "Tsentrolit" economists and process engineers. "It is taking away our income. We have urgent need of other measuring instruments!"

While we are talking with plant management employees, one telegram after another is laid on their desks. In one of them, I. Rasponin, the Glavlitprom chief, directs the plant to "allocate production volume by quarters" for concluding 1988 contracts.

The chief of the main administration cannot help but be aware that such commands are in violation of the Law on the State Enterprise. And there is no need for them, either. By carefully preparing for the shift to cost accounting beforehand, well before 1 January 1988, the "Tsentrolit" plant in Lipetsk concluded all economic contracts with its associated plants. The periods of time for fulfilling these contracts are also determined by the volumes of output ordered. The foundry workers are very well aware of how many castings to make for whom and when, even without Comrade Rasponin.

And here is a telephone message. Now the chief of the main administration does not wish to limit "allocation by quarters" and he is interfering in day-to-day intraplant planning. "In order to develop a stockpile of castings by product type," the message states, "we suggest that you increase the January plan for marketable goods up to 3,530,000 rubles by reducing the plan for March or other months, without changing the annual plan." What "stockpile" is the main administration chief concerned about if the plant is turning out its products and meeting its contracts according to schedule? This "stockpile" was needed by Comrade Rasponin personally. Let the Lipetsk foundry workers give a little more of something in January!.. And if someone fails to meet the January plan, there will be something to compensate for it in the main administration.

"How are such 'commands' perceived at the plant?"

"They only bring irritability to the work."

We "fished out" one more instruction from the latest mail at the plant. This time it was from the Sovetskiy Rayon Ispolkom of the city of Lipetsk: "It is necessary for you to send three persons to the gorplodoovoshchtorg [city fruit and vegetable trading organization] base every day in the first shift from 12 January to 10 February." As we see, thus far local organizations consider plant cost accounting as something strange. Restructuring is restructuring, they say, but we have been commanding the plant economy and we will continue to do so. Independence comes provisionally. Under stewardship, so to speak.

Ministry's Response

18200148 Moscow *EKONOMICHESKAYA GAZETA* in Russian No 17, Apr 88 p 9

[Response to *EKONOMICHESKAYA GAZETA* article "Under Stewardship Just the Same" by A. Dobrozhanov, Deputy Minister of the Machine Tool and Tool Building Industry]

[Text]On the article "Under the Stewardship Just the Same" (No. 10): The Ministry of the Machine Tool and Tool Building Industry of the USSR has examined the article and announces that it agrees with the criticism.

During the change to new conditions of work Minstankoprom, to which the Lipetsk foundry is subordinate, allowed an excess of overadministration, of which *EKONOMICHESKAYA GAZETA* took accurate note. Thus, in the fourth quarter of 1987, an attempt was undertaken to make the conclusion of agreements dependent on "plan allocation by quarters" and to form a certain "insurance stockpile" for January 1988.

The errors cited were corrected in the first quarter of 1988. The "Tsentrolit" plant in Lipetsk is turning out castings in full compliance with the plan which the labor collective adopted for 1988, guided by the Law of the USSR on the State Enterprise.

The problem of foundry enterprises' low profitability is acute under the conditions of cost accounting and self-financing. National Price List No 25-01 is now being reviewed and a new edition should be introduced in 1990. Taking into account the need to discontinue the input economy and the ton with undefined responsibility, the price list will be basically oriented toward payment for the consumer properties of each specific casting. The Ministry of the Machine Tool and Tool Building Industry has proposed to the USSR State Committee on Prices that the central foundries be shifted to operation in accordance with contract prices as an experiment in order to accumulate experience in detailed accounting with consumers.

A. DOBROZHANOV

Deputy Minister of the Machine Tool and Tool Building Industry

8936

PLANNING, PLAN IMPLEMENTATION

Growth Rates Reviewed in Light of Upcoming Party Conference

18200126a Moscow *EKONOMICHESKAYA GAZETA* in Russian No 14, Apr 88 pp 5-6

[Article by B. Pavlov, under the "Greeting the 19th All-Union Party Conference" rubric: "The Economy's Growth Rate and Structure"]

[Text]In preparing for the upcoming party conference, it is important that we analyze the results of the first stage of restructuring and the implementation of the strategic principle set forth at the 27th Party Congress on accelerating the country's social and economic development. By carrying out the task proposed by the Congress—decisively overcoming unfavorable trends in the economy's growth, giving it the required dynamism and expanding the scope for initiative, creativity and genuinely revolutionary transformations—we will in large part predetermine the substance of the second stage of restructuring, which is now under way.

REINFORCING POSITIVE TRENDS

Analysis of the results of the first two years of the five-year plan period indicate that the slowdown in growth of production volumes, which occurred during preceding five-year plan periods, has for the most part been overcome.

Production Growth Indicators

	1986	1987	1986-1987	Average During 11th Five-Year Plan
Basic Production				
Growth Indicators				
Industrial Output	4.9	3.8	4.4	3.7
Agricultural Output	5.1	0.2	2.6	2.1*
Total Capital Outlays	8.4	4.7	7.1	3.7
Putting Fixed Capital Into Operation	5.9	5.0	5.6	3.1
Freight Exported by All Modes of Transport	4.1	0.7	2.4	1.4
including railroad	3.2	-0.2	1.5	1.2

*For first and last years

Industrial output increased 4.9 percent 1986 at a plan figure of 4.3 percent and increased 3.8 percent in 1987, thus meeting the year's target. The average growth for these two years was almost 1.2-fold greater than for the 11th Five-Year Plan period. Growth rates for industrial output surpassed the target levels planned for this portion of the five-year plan period. January-February 1988 showed a 5.8 percent increase, which surpassed the target approved for the year.

There have been improvements in the work of a number of those leading industrial sectors which had been held back during the economy's preceding growth period. The oil and coal sectors of the fuel and energy complex lagged considerably during the last five-year plan period, as did ferrous metallurgy. At present, these sectors are operating more stably and are overfulfilling their targets at their general production growth rates.

More emphasis is now being placed on improving quality. In industry, state acceptance of output has been introduced at 1,500 enterprises since the beginning of 1987, and has proved a serious obstacle to defective work. In 900 machine-building enterprises which have introduced state acceptance, about 20 percent of the output was not accepted on first submission, with this figure falling to 10 percent, or half the previous amount by the end of the year.

The growth rates for **agricultural output** increased 2.5-fold over the last five-year plan period (based on average yearly production volumes). Highest growth occurred in 1986. But despite intended gains, the national economy's demand for food products is not yet being met and foodstuff production is lagging far behind the targets set in the Food Program.

Growth rates for capital construction have also increased considerably. These are the rates which increased slower over the preceding two five-year plan periods than the national economy as a whole. The average annual increase in overall capital investments for 1986-1987 came to 7.1 percent, or 1.9-fold greater than the rates for the 11th Five-Year Plan period and are greater than the lower limits of the targets set in the Basic Directions for the 12th Five-Year Plan period.

Growth in putting fixed capital into operation has accelerated. This is in line with the five-year plan policy for accelerating the reequipping of the national economy and increasing the share of the accumulation fund in the national income. This will strengthen the material prerequisites for expanding efforts to reconstruct the economy's material and technical base, and will increase the rates at which production will develop during the next period.

The investment policy is being restructured. Retooling and renovation of operating enterprises has become a priority direction for our capital investments. In 1986, capital outlays to these ends were increased by 25 percent, or 2.8-fold over the overall amount of state capital outlays. In 1987, outlays for retooling and renovations increased by 7 percent. Over half of these outlays were comprised of assets from directors' and organizations' funds. The construction sector had less favorable results for such final results as putting fixed capital and production capacities into operation. The targets for these indicators were not met, the levels at which they were fulfilled being roughly the same as for the last five-year plan period.

The transport sector showed renewed growth following the downsurge in its shipping volumes during the last few years.

However, the national economy's growth has not yet attained the required stability. Last year's indicators for output growth rates in the basic sectors were markedly lower than for the first year of the five-year plan period. Last spring's recession, when industrial production volumes fell off (primarily in the machine-building sector), as well as in rail shipments, was felt very acutely. The aftereffects of the lag which was allowed to occur were felt all year long, and still have not been eradicated. A number of sectors are having definite difficulties in their work this year as well.

The new quality in economic growth is being manifested most graphically in **the accelerated improvement of effectiveness of public production.** This process has been borne out by the dynamics of most of its indices, including labor productivity, which is the most important.

Labor Productivity Growth Indicators

Labor Productivity Growth Indicators	1986	1987	1986-1987	Average
				During 11th Five-Year Plan Period
In Industry	4.5	4.1	4.3	3.1
In Agriculture	8.6	2.5	4.3	3.1
In Construction	4.5	6.0	5.2	2.6
In Railroad Transport	7.6	6.8	7.2	1.6
Public Labor Productivity	3.8	2.4	3.1	3.1

Industry is presently expanding with evidence of stabilization and even a certain reduction in the number of employees. Since the second year of the five-year plan period, increased labor productivity has for the first time begun to be fully responsible for providing all the growth in industrial production and the national income.

The relationship between increased labor productivity and wages is being normalized. The exceedingly high wage increases of the 1970's have been eliminated. More rapid growth in labor productivity was seen in 1986-1987 as well as in the industrial level attained in construction and agriculture.

The dynamics of the capital-output ratio index have improved somewhat. The falling off of this index for the same period of the 11th Five-Year Plan period slowed down overall in the national economy by almost one-third, by a factor of 2.3 in industry and by one-half in agriculture. The capital-output ratio improved in the construction sector.

Increased emphasis has been placed on instilling a regime of economizing in production. A direct result of this has been a more rapid reduction in the costs of producing output. Prime industrial production costs for 1986-1987 fell 2.6-fold faster than for the 11th Five-Year Plan period on the average, and 4-fold faster in the construction sector. The agricultural sector managed to cut its costs somewhat in 1986, prior to which they had undergone an extended period of increases.

A breakthrough was noted in the acceleration of the rate of material resources turnover which allowed us to achieve outstripping growth in production volumes relative to reserves for the first time since the 1970's. In 1986, when stocks of materials commodities valuables increased by 1.4 percent, the gross national product increased by 3 percent (at then-current prices).

These data allow us to conclude that the increased growth rates are primarily the result of increased production effectiveness.

Serious changes are taking place in the social sphere. Here, two primary aspects need mentioning. First, our stepping up the war against alcoholism has normalized the living conditions of our population and has

improved the structure of the consumption fund. Since May 1985, we have taken measures to limit alcoholic beverage production, which has been increasing for a long time. In 1987, production and sales of alcoholic beverages were cut back to roughly half of the 1984 levels. The positive social consequences of these measures stand out all the more distinctly. Less working time is being lost in industry. However, in a number of places, efforts to do this have slackened off. Illegal home distilling is on the rise.

Second, the residual principle of allocating resources for housing and social-cultural construction is being overcome. Additional outlays, above the quotas called for in the five-year plan for state capital outlays, have been allocated for these purposes. Housing construction paid for with directors' and organizations' assets has increased, and cooperative construction has grown. The scope of housing construction has been stable practically since the 9th Five-Year Plan period. The amount of living space accepted for use in 1986-1987 increased by 16.7 million square m, or twice the increase for 1981-1985. Simultaneously, there was a major expansion in the construction of other social and cultural facilities—children's institutions, hospitals and polyclinics, schools and cultural institutions.

At the same time, an analysis of growth in the national economy for the two past years indicates that the increase in production growth rates has not been accompanied by accelerated growth in the national income and the consumption fund. Judging by the national income, the five-year plan quotas have not been met: their volume for two years has increased by 6.5 percent against 8.2 percent as called for in the plan, and the average annual growth decreased from 3.6 percent during the 11th Five-Year Plan period to 3.2 percent. The influence of factors outside the framework of production itself, primarily the activation of the war with alcoholism and the worsening foreign trade situation, have had a great deal to do with this reduction. This has caused a serious divergence in the dynamics of the output of various sectors and in the growth of the national income and its related economic indices. If the above conditions remained unchanged, then the national income's annual growth rates, estimated roughly, exceeded the achieved rates by no less than one point and were much higher than the indicators for the last five-year plan period.

Reductions in the output of alcoholic beverages has diminished the magnitude of this item in the national economy. This is a graphic manifestation of the new quality of economic growth, and is related to rationalization of the demand structure. The government consciously refused to increase its production volumes by producing goods harmful to people's health, the consumption of which has a negative effect on our society's moral atmosphere.

Worsening world market conditions have diminished foreign trade's contribution to the formation of the national income. For a long time, foreign trade turnover was increasing faster than the national income. Its growth rates outstripped the production of the national income by 1.4-fold during the 9th Five-Year Plan period, 1.2-fold during the 10th, and 1.4-fold from 1981-1984. As a result of reductions in the world market price for Soviet export goods and increased import costs, volumes of foreign trade at comparable prices were reduced for the first time in 1985. In 1986 the foreign trade turnover of comparably priced goods increased 2.2 percent, but decreased at actual prices by 7.9 percent. In 1987, with a 1 percent increase in the physical volume of foreign trade turnover, the foreign trade turnover decreased by 2.2 percent, primarily because of reduced purchases of goods on the world capitalist market. As the result of increased net output caused by an acceleration in the growth of production in this country, some of the losses were compensated through foreign economic ties.

The non-fulfillment of quotas for economizing on material outlays also affected the national income's growth rates.

Thus, the processes of acceleration have remained uncompleted in the sense that they have still not led to a qualitative improvement in such free indicators of the economic dynamic as the national income and the consumption fund. Nor have they led to needed changes in a number of critical national economic areas. This takes into account the specific nature and the contradictions of the first stage of restructuring, the structural changes under way in the national economy and the difference of real reproductive conditions from those proposed when the five-year plan was being formulated.

THE PROBLEMS OF REORGANIZING THE STRUCTURE OF PRODUCTION

The transition to the new quality of economic growth is effected in extremely complex fashion. Its most essential elements are accelerating the increase of production efficiency, more emphasis on output quality and rationalization of the consumption fund's structure. But all these processes take place while many former trends are kept on, in particular the continuing orientation of enterprises and even sectors to increasing volumetric cost indicators to the detriment of satisfying public demands. As was pointed out at the February (1988) CPSU Central Committee Plenum, in practice we are

still coming up against the fact that both in the Center and locally things often go along just as they always have, i.e., the striving to use old methods to drag the economy along.

This is the reason the data concerning production growth rates, labor productivity and other qualitative indicators by and large reflect the influence of previously established inertial extensive growth. To corroborate this, there are indirect signs of disparity in the data concerning the acceleration of growth and many of the qualitative indicators.

Thus, speeding up the growth rates for industrial production has not always been supported by corresponding improvement in contract discipline or by meeting plan targets for producing the intended array of output. Obligations for deliveries of output were 98 percent fulfilled in 1985, 98.6 percent in 1986 and 98.3 percent in 1987. Last year R12 billion less than contracted volumes of output went undelivered to customers. The greatest lag resulting from not meeting quotas for overall production volumes and basic products arrays was allowed to develop in the machine-building (R3.7 billion) and wood chemistry (R2 billion) complexes and USSR Minlegprom [Ministry of Light Industry] (about R1 billion). These complexes are responsible for over half of the total delivery-related liability. In all, 23 percent of their associations and enterprises failed to meet their contractual obligations.

Some 31 percent of fuel-energy complex enterprises failed to meet their contractual obligations, as did 34 percent of those in the metallurgical complex, 47 percent in the wood chemistry complex and 30 percent in USSR Minstroyaterialov [Ministry of the Construction Materials Industry]. All this means that the failure to meet contractual obligations is slow in being overcome. Many enterprises will continue to fulfill their stipulated sales volumes by producing output not ordered by customers and of a poor technical level and quality.

This is why, despite increased production growth rates, a serious lag has been allowed to develop in meeting the public's needs. Under our central planning system these needs are usually represented by a list, approved in the state plan, of the most important types of products to be manufactured. The year 1987 saw a worsening in the fulfillment of the quotas on this list, with less than half of its product designations being produced. Thus, the metallurgical sector met its quotas for only 6 of 25 highly efficient types of output and the machine-building sector met its quotas for only one-third of its advanced types of machines and equipment. There is a considerable lag this year as well. All of this makes it much more difficult to balance production growth.

A number of important links in the national economy have failed to make planned progressive structural gains. For example, the industrial output structure is having a less favorable effect than expected. The relationships

called for in the five-year plan between the production of the means of production and consumer goods have not held up. Although the five-year and the yearly plan called for outstripping growth in consumer goods, output produced by industrial group "B" grew slower than that of group "A", with the growth rates for output produced by

these two groups coinciding in 1987. The disproportions between the raw-materials and the processing sectors have not yet been eliminated. If industrial growth was held back by sluggish growth in the raw-materials sectors during the last five-year plan, the processing sectors are lagging now.

Growth Rates for Industrial Output

Growth Rates for Industrial Output by Complexes of Sectors (in percent)	1986	1987	1986-1987	Average During 11th Five-Year Plan
Fuel-Energy	3.3	3.2	3.3	2.1
Metallurgical	4.0	1.9	3.0	2.1
Machine-Building	5.7	3.2	4.4	4.2
Wood Chemistry	5.7	3.2	4.4	4.2
Agroindustrial Complex Processing Industry	5.0	3.5	4.2	3.4
Construction Materials	5.0	3.2	4.1	3.0
Light Industry	2.0	1.4	1.7	1.6

For two years there was accelerated growth in the raw-materials sectors (the fuel-energy complex, ferrous metallurgy and the wood chemistry complex), whereas machine building slowed down somewhat, and light industry's growth rates remained at practically the same level as the last five-year plan period.

Technical progress and meeting the population's demands are still the primary ways to improve the structure of industry. As a result, the proportion of the processing sectors' output showed less of an increase than stipulated in the five-year plan, and the relationship of their growth rates with the extractive industries worsened, compared to the preceding period. During the 11th Five-Year Plan, for every percent of growth in output for the extractive industry, the processing industry showed a 2.6 percent output growth, whereas in 1986-1987 it showed 1.3 percent, or only half of the above.

An analysis of general economic indicators and the problems of reproduction in the sectors and in the territorial cross-section shows us that so far only the first step has been taken in mastering the sources and components of the new quality of economic growth. Increases in the growth rates for labor productivity and the other effectiveness parameters were for the most part brought about on the previous material and technical base. So far, the breakthrough needed to accelerate scientific and technical progress and intensify production has not come about, and the improvements here have been primarily of a quantitative rather than a qualitative nature.

This mainly concerns the machine-building industry. The increase in its growth rates called for in the five-year plan has not been achieved. In 1986-1987 growth in machine-building output, relative to the industry as a

whole, was outpaced 1.4-fold rather than the 1.7-fold estimated in the five-year plan calculations. The lag in qualitative output characteristics has had the greatest effect.

Since the middle of last year, the situation in the machine-building industry has been gradually straightening itself out: increased production growth rates have been accompanied by stepped-up production of new output. Production of highly-effective items accounted for roughly 30 percent of the total increase in output, and for the first time the relative share of output being put into production has reached 9 percent (plan 7.6), including 12 to 15 percent for USSR Minselkhovmash [Ministry of Tractor and Agricultural Machine Building], USSR Mintyazhmash [Ministry of Heavy and Transport Machine Building] and USSR Minkhimash [Ministry of Chemical and Petroleum Machine Building]. The share of commodity output products recently put into production by the machine-building sector has increased 3-fold compared to last year. This has allowed us to raise the coefficient of withdrawal of fixed productive capital as early as the start of the five-year plan period, and to accelerate the replacement of worn-out fixed productive capital's obsolete parts. In 1987, withdrawal amounted to 2.5 percent against 1.9 percent for 1981-1985.

But the machine-building industry is still functioning poorly as a catalyst for technical progress. Those enterprises being constructed or renovated are encountering shortages of new equipment, and a great deal of obsolete machinery and equipment continues to be manufactured. It is still taking a long time to put new equipment into series production, and the contrast in production and sectorial and academic science has yet to be eliminated.

The lag in construction continues to have a negative effect on the development of scientific and technical progress. Despite the considerable acceleration of growth

in capital outlays, it continues to be substantially deformed by the poor technical level and insufficient effectiveness of some of the projects, by the prolonged periods of time needed to build them and by the sluggish assimilation of the planning indicators from capacities which have been put into operation. A reexamination of previously established trends for capital outlay allocations and the concentration of completed construction have proven to be unequal to the task of fulfilling the intended plans. When the 1987 ceiling for state capital outlays was set at 97 percent, the quotas for putting fixed capital into operation were met by only 92 percent. Some 29 percent of projects with capacities from the state plan products list failed to be turned over for operation. The upshot was that the expansion and improvement of production capacities at the modern technical base were behind schedule relative to planned deadlines in practically all complexes of sectors, nor were any gains made in bringing fixed production capital up to date. Hence the disproportions in production, the incomplete utilization of existing production capacities, the operation of worn out and obsolete fixed capital and the reduced yield from developed production potential.

We have not succeeded in activating such means of intensification as resource conservation, and economizing on material outlays. Reductions in materials-intensiveness have proceeded at a slower pace, not only compared to the plan, but since the last five-year plan as well. Thus in 1987 the materials-intensiveness of public production generally underwent no reduction, although it was supposed to have been cut down by 0.8 percent. The amount of power used by the national income increased by 0.9 percent instead of being reduced by 1.8 percent. The average annual rates for reductions in metal consumption amounted to 1 percent during 1986-1987 against 2.3 percent during the 11th Five-Year Plan period. These figures show the degree to which a number of sectors failed to meet their quotas for economizing material resources, and the degree to which the significance of this effort has been underestimated by enterprises, ministries and local administrative organs.

The task of activating the long-term factors related to the acceleration of scientific and technical progress and the structural reorganization of production has been brought into the foreground concerning all the directions taken to expand production.

THE DISTRIBUTION SITUATION

The qualitative renewal of the economy assumes that in addition to the mastery of new sources of growth and changes in the proportions of production, there will be improvements in the distribution mechanism and in the entire system of distributive relations. We will pause here to take up two questions—the situation in the market and in finances.

The new quality of economic growth stands for reorienting production towards meeting the demands of the population, optimizing the relations between production growth rates and increasing the consumption fund. At first glance, this area seems to have improved somewhat. If the 11th Five-Year Plan saw an average annual increase in per capita real incomes of 2.1 percent, this figure was 2.2 percent for 1986-1987. It's as if these data, when compared to the decelerated dynamic of the national income, are evidence of a definite redistribution of resources for consumption and at least for maintaining the growth rates for the population's standard of living established during the current five-year plan period.

However, we need to take into account the stepped-up outpacing of the monetary incomes relative to the supply of goods and services. This is why the data on the dynamics of the population's real incomes are inadequate for the characteristics of completely satisfying the population's demands. The situation in the marketplace has worsened because of increased shortages of a number of goods and services which has caused the lag in executing the five-year plan's social program tasks pertinent to eliminating shortages and bringing about improvements in meeting demands.

The Population's Monetary Incomes, Commodity Circulation and Paid Services

	1986	1987	1986-1987	Average During 11th Five-Year Plan Period
Monetary Incomes for the Population, Commodity Circulation and Paid Services (growth in percent)				
Workers' and White Collar Workers' Wage Fund	3.3	3.4	3.3	3.3
Kolkhoz Farmers' Wages	5.1	2.5	3.8	4.2
Payments and Benefits Paid to the Population from Public Consumption Funds	4.1	4.8	4.4	4.6
Retail Commodity Turnover from State and Cooperative Trade (in prices in effect during corresponding years)	2.4	2.8	2.6	3.7
Paid Services Rendered to the Population	10.2	8.1	9.2	

Growth rates for wages have remained at the level of the preceding five-year plan period, whereas the increase in

the commodity turnover from state and cooperative trade has slowed. The wage increase has generally been

in line with the five-year plan quotas which, however, have not been met for commodity circulation and services. The quotas for total volume of retail commodity circulation were underfulfilled in 1986 by R10 billion, and by R12.6 billion in 1987. Reductions in commodity resources stemming from cutbacks in the production and sale of alcoholic beverages has not been fully compensated by expansions in the production of other consumer goods and services. Increased commodity circulation in recent years is still occurring thanks mainly to price hikes for both alcoholic drinks as well as the average retail prices for saleable goods. Kolkhoz market prices rose. The slowdown in the increase of sales of goods to the population was not made up for by the expansion in paid services.

The inadequate increase in the production of goods and services and the sluggish improvement of their quality have resulted in an increase in the scope of unsatisfied demand. This makes it difficult for many strata of the population to obtain needed goods and services, violates the principle of wages being based on quantity and quality and weakens the motivation to expand production.

In other words, the new quality of growth has also failed to manifest itself to the requisite degree in the field of social development. So far there has been no success in accelerating growth in the national well-being. The five-year plan quotas for raising real incomes have not been met completely, with the results for two years showing a 4.6 percent increase instead of the 5 percent called for in the plan.

The national economy's financial situation has been negatively affected by a number of sectors' non-fulfillment of their profit plans, the worsening of qualitative indicators allowed by many enterprises, large-scale losses and non-productive outlays and the filling to overflowing of the channels of exchange with money and payment assets which were not secured by material resources. The positive gains made in production growth had, in essence, little effect on improving the financial indices. The movement of financial resources continued with a considerable lack of contact with the turnover of output, which has created a great many difficulties, both in the area of distribution as well as directly in production.

Financial Resources

Financial Resources (growth in percent)	1986	1987	Average for 11th Five-Year Plan Period
Produced National Income (in current prices)	1.5	2.0	4.6
Accumulations of the National Economy including:	1.9	—	50
profits	13.9	5.0	7.7
turnover tax	-6.4	—	0.7
state budget incomes	7.4	3.8	5.2
state budget outlays	7.9	4.4	5.6
bank loans	-13.2	—	8.7

The table shows that at the start of the five-year plan period, there was a slowdown in the growth of the financial resources represented by a surplus product of our society, i.e., the national economy's monetary savings. The state budget, whose growth accelerated, engages our attention: in 1986 at a 1.5 percent increase in the produced national income, budget outlays increased by 7.9 percent (at current prices).

Nominally, the state budget was balanced: its outlays were covered by incoming assets. In a situation where the growth of the national economy's accumulations had slowed, this was achieved by an ever greater redistribution of revenues from socialist enterprises—by withdrawing profits and assets from economic stimulation and depreciation funds, and in individual cases, from in-house current assets and replacing them with bank loans. This weakened the connection between finances and cost-accounting (khozraschet) in the sectors and in enterprises and was an infringement of the economic interests of the labor collectives. The balancing of the state budget was complicated by increasing subsidies to agriculture and other sectors which, in 1986, amounted to

roughly 12 percent of the national income and 17 percent of the budget's expenditures, and by the presence of a large number of unprofitable enterprises. In industry, for example, 13 percent of the associations and enterprises operated at a loss.

The formation of financial resources continued to be isolated from the final results of production. What is significant is the increase of the share of the state budget in the produced national income from 67.5 percent in 1985 to 71 percent in 1986-1987 (it came to 54 percent in 1970 and 60.2 percent in 1975). The national income was redistributed within this range only during the 1930's and 1940's. The consolidation of finances and the development of cost-accounting have usually been accompanied by a downward trend in the relative share of the state budget in the national income.

So far this has not happened, but certain signs of improvement have appeared here, too. Thus for the first time in this five-year plan period, the total amount of bank loans has been reduced by 13.2 percent, and this includes short-term

loans—by 16.4 percent. A serious obstacle has been placed before the issuing of economically unjustified loans not secured by material resources, which loans artificially supported the solvency of inefficiently-operating enterprises. Improving the economic indicators of production activity—primarily by speeding up the growth of assets accumulated by socialist enterprises, balancing state revenues and expenditures and bringing them into correspondence with the process of systematic formation of material and substantial proportions of reproduction—should create the prerequisites for eliminating other flaws in the area of finances.

BASIC CONCLUSIONS

The tasks assigned by the Party aimed at accelerating the social and economic development and the qualitative renewal of the economy pertain to the entire restructuring period, and this will take up at least the entire current five-year plan period. On the basis of the criterion of the complexity of the problems which were solved, the two years just past, while not a short period of time, was not very long, either. This is why the circumstance that the needed breakthrough was not achieved along the entire front and not in all areas of activity, should be neither justified nor dramatized. The past years have shown us rather clearly the directions in which we can make gains in the upcoming two or three years, and where more time is needed. In summarizing the results of what has been said here, the following problems can be set apart as requiring particular attention.

Stepping up production growth rates exclusively by expanding the production of output needed by the national economy and the population, while strengthening contractual discipline. We have to strengthen the interaction of production and consumption, and indeed must subordinate the work of the enterprises to meeting the demand for specific types of output and services, must overcome the historically established disparity of the planning and valiative indicators of labor collectives' work from the meeting of community needs. The orientation to specific demand and consumer demand should become the avenue for bringing about cardinal improvements in the proportionality of reproduction and stability in its balance. To do this, we must make full use of the economic levers inherent in the new economic management system.

The top-priority task is to accelerate scientific and technical progress and the intensification of production. The rates of economic growth should be accelerated based on national needs, as highlighted in Party documents, through retooling production, stressing quality and the renewal of output, replacing obsolete production capacities more promptly and economizing resources. Economizing resources must be the primary means for meeting the growing demands for raw materials, materials and power.

As for the **structural reorganization of production**, it is important to stress more rapid reduction of the materials-intensiveness of the national product both by economizing our fuel and energy resources, raw materials and materials, and particularly by accelerating growth in the processing

sectors, by retooling and renovating operating production facilities, and by renewing and improving output quality on an up-to-date technical basis. This will allow us to achieve better final results, i.e., to increase production of consumer goods, machinery and equipment related to the output of the extractive and raw-materials sectors, and thus to improve the entire system of sectorial and territorial proportions.

The task of balancing the market and coordinating the population's monetary incomes with the volume of available goods and services is the primary means for solving social problems. Previous attempts to provide market equilibrium predominantly by stepping up consumer goods production and the turnover of retail goods and services have turned out to be lacking in success. The need is ripe to augment these measures by applying levers which will regulate demand, by taking into account the actually established prospects for expanding proposals, and especially by bringing wages into correspondence with the final results of production, by reexamining the state retail price level, restricting and confiscating unearned incomes etc. These measures should also include compensation to low- and middle-income categories of the population for income lost due to increased retail prices and other guarantees of workers' social rights. Without normalizing the market situation and strengthening the purchasing power of the ruble, there is no way we can count on there being social justice when applying the socialist principle of wages corresponding to the quantity and quality of the labor performed. Nor can we rely on a genuine activation of distributive relations or of their being converted into an effective instrument for raising the level of our economic operation.

As mentioned in the February (1988) CPSU Central Committee Plenum, we still have three top priority problems: food and housing, and the problem of providing the population with the necessary goods and services.

We also need a no less profound breakthrough in the area of finances. Our agenda includes the implementation of a **program of putting our finances in good order** by eliminating financial losses and subsidies of any sort, and by developing a mechanism which will motivate enterprises to increase their savings and improve their profitability. This will result in the turnover of monetary and payment assets according to the actual needs of normal economic growth. In a broader sense, we have in mind a transition to balanced non-inflationary growth which will ensure the purchasing power of money.

We particularly need to mention the urgency of **restructuring all our foreign economic activities**. Since the mid-1980's, the expansion of foreign trade has been falling behind the general rates of the economy, and its contribution to the national economy has essentially diminished, and this has seriously exacerbated most of the disproportions in production, in the marketplace and in finances. In other words, we need to restore to our foreign economic ties the importance they lost with regard to providing our economy with growth.

In the years which have elapsed in the 12th Five-Year Plan period, national economic growth has been based primarily on transformations in production itself, in its structure and investment policy, and in the general political and moral factors of restructuring.

The present time marks the onset of the stage at which we put the economic mechanism of acceleration and restructuring to practical use, which is the main feature of this stage. The application of economic levers allows us to use our deep reserves and the factors of the new quality of economic growth, which prior to now have been used inadequately.

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Gosplan Collegium Recommends Further Work on Long-Term Plans

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[Unattributed account of Collegium of USSR Gosplan]

[Text] The Collegium of USSR Gosplan has discussed in a number of sessions questions related to preparing the material for the country's economic and social development over the long run, progress in fulfillment of the plan for the 12th FYP, and also certain crucial problems related to preparing the draft plan for 1989 on the basis of the requirements of the USSR Law on the State Enterprise (Association) and the decisions of the CPSU Central Committee and USSR Council of Ministers on radical restructuring of the management of the economy.

The Collegium has repeatedly taken up the question of the structure and progress of the effort to prepare the draft of the Conception of the USSR's Economic and Social Development Over the Period up to the Year 2005.

On behalf of more thorough substantiation of the ways and means of achieving the strategic objectives of the country's development, so that they could be worked out in alternatives, and also on behalf of the quality and promptness of preparation of the draft of the Conception, the decision was made that the preliminary proposals for the draft of the Conception be reworked jointly with scientific research organizations and the Main Computer Center of USSR Gosplan, with help from the USSR State Committee for Science and Technology and the USSR Academy of Sciences, on the basis of the Basic Directions for the Economic and Social Development of the USSR Over the Period 1986-1990 and up to the Year 2000, which were approved by the 27th CPSU Congress.

It was recommended that particular attention be paid to the questions of achieving higher levels of general economic indicators over the period up to the year 2005, development of strategies for effective and balanced development of national economic complexes through optimum solution of intersector problems, application of

the most recent advances of science, engineering, and technology, conservation of all types of resources, expansion of export capabilities, improvement of the economic mechanism, and consequent assurance of minimal outlays to achieve the long-range goals of economic and social development.

The Collegium also took up the key individual problems in the country's socioeconomic development and long-range national economic programs as integral elements of the draft to be prepared of the Conception.

Following discussion of the draft of the Target Program for Development of the Social Welfare and Cultural Complex of the USSR Over the Period 1991-2000, the Collegium recommended that additional work be done on scientific approaches to definition of the goals and priorities in long-range development of the social sphere, social standards, the size of resource expenditure for its development, sources of those resources, the socioeconomic consequences of changing the proportions of those expenditures, and above all their impact on the growth of national income as well as other summary economic indicators. An analysis was ordered into the key problems of regional development free of narrowly sectoral solutions to the problems, greater emphasis is to be put on the conceptual and theoretical orientation of the document, fundamental approaches to the problem of the prospects for social development are to be formulated by linking the workup of the materials on the content, level, and intervals of planning to the draft being prepared of the Conception for the USSR's Economic and Social Development Over the Period up to the Year 2005, so as to furnish on that basis an idea of the Program as a single integral document.

Particular attention was paid in this connection to work on the following questions:

- the integrity of the program, the interrelationship among its parts, selection and substantiation of alternatives of objectives and priorities in social development, above all the housing problem, development of the network of preschool institutions and health care facilities, and gradualness in solving these problems;
- solving the key problems in development of the social welfare and cultural complex on the basis of a system of target social welfare standards that take into account the resource capabilities of the economy that are forecast;
- comprehensive evaluation of inputs of resources for development of the material base of the sphere of social welfare and culture, the working out of new approaches to determination of those inputs, including the search for solutions guaranteeing the multifunctional and multiaspect use of its facilities and a distinct saving on resources;
- determination of sources of resources to accelerate development of the sphere of social welfare and culture and definition of ways for their optimum use, development of the social and cultural complex in its

regional aspect, including selection and substantiation of priority regional problems, the shaping of social welfare standards so as to take into account the measures being taken to broaden the rights of the union republics in social and cultural construction and measures to equalize in the future the levels of social development of regions;

- performance of multivariant macroeconomic calculations over the long range and evaluation of the range of resource capabilities of the economy for development of the material base of the sphere of social welfare and culture;
- substantiation of the volume of capital investments necessary to carry out the intended development of the branches of the social-cultural complex with a view to linking them to indicators of the development of the national economy as a whole and the overall resources of capital investments on the basis of the preliminary workups done for the draft of the Conception of the USSR's Economic and Social Development Over the Period up to the Year 2005.

The heads of the respective complexes and departments of USSR Gosplan have been ordered in preparing the material for drafts of the Conception and the Basic Directions for the country's economic and social development up to the year 2005 and the 13th FYP to make provision on a priority basis for the building of highways in the Nonchernozem Zone of RSFSR and establishment of the corresponding limits for capital investments and other resources.

After taking up the issue of speeding up completion of the work on the draft of the Comprehensive Program for Development of the Productive Forces of the Union Republics of Central Asia and KaSSR Over the Period up to the Year 2010, the Collegium noted that the commission formed by USSR Gosplan did not take the necessary steps in good time to prepare, pinpoint, and solve a number of crucial problems in the draft of that program, above all those related to guaranteeing a higher level of employment of the population, determination of the priority directions in economic development, the supply of water resources and fuel and energy resources, and improvement of the ecological situation.

The heads of the respective departments of USSR Gosplan were ordered to prepare proposals for completion of the work on the draft of the Comprehensive Program concerning these matters with participation of the councils of ministers of the union republics, USSR Gosagroprom, USSR GKNT, USSR Minvudkhov, the USSR Academy of Sciences, and VASKhNIL, to be taken up in a session of the Collegium of USSR Gosplan.

The Collegium took up the draft of the comprehensive target program for development of the Kansk-Achinsk Fuel and Energy Complex (KATEK) over the period up to the year 2005 and basically approved the long-range strategy for its development, including the scale of growth of the mining of Kansk-Achinsk coal, the generation of electric power at

the KATEK GRES, and other technical-and-economic indicators in the proposed variants of the program's draft. It recommended that these materials be used in preparing the respective sections of the draft of the Conception of the USSR's Economic and Social Development Over the Period up to the Year 2005 and for revision of the Long-Range Energy Program of the USSR.

It noted that the materials of the draft program related to the section "Protection of the Complex's Environment" did not in the form presented satisfy the requirements of a radical improvement of the situation with natural conservation and optimum use of the region's natural resources. The Collegium, which attributes great social, political, and economic importance to the questions of environmental protection and to determination of priority directions in solving the ecological problems of the KATEK, ordered VNIKTEP to work jointly with the department for natural conservation and with the help of USSR Goskomgidromet, USSR Minzdrav, USSR GKNT, the USSR Academy of Sciences, USSR Minenergo, USSR Minugleprom, and other interested ministries and departments, to work up these problems further and to present this section of the program for examination by the State Commission for Expert Evaluation of USSR Gosplan.

On behalf of creating the necessary production and social infrastructure of the KATEK, USSR Minenergo and USSR Minugleprom were ordered, with the help of USSR Gosstroy and other interested ministries and departments, to work out as part of the draft plans for the 13th FYP a program for development of large-scale construction organizations so as to take into account the upcoming work to be developed in building the GRES on the eastern flank of the KATEK and the superhigh-voltage long-distance power transmission line.

The Collegium also took up the composition of state orders approved by USSR ministries and departments and councils of ministers of union republics and ordered additional examination and reconciliation of the composition of state orders to be approved by those ministries and departments of the USSR and councils of ministers of the union republics. It was recommended that ministries, departments, and union republics eliminate unjustified expansion and excessive detail in the indicators of state orders in view of the fact that they must guarantee combination of the centralized principle in solving the problems of the entire state with expansion of the independence of economic entities and must create the economic and organizational conditions for enterprises to make better use of the rights granted them, for planning to be democratized, and for the workers to take an active part in management.

The Collegium by and large approved the proposals of the summary department for national economic planning concerning organization of the work to prepare the draft of the State Plan for the USSR's Economic and Social Development in 1989 and the draft of the decree of USSR Gosplan on this matter, which called for a change in the technology for preparing the draft of the plan in conformity with the

requirements of the USSR Law on the State Enterprise (Association) and other decisions of policy-making bodies concerning radical restructuring of management of the economy.

It was recommended that consideration be paid to the specific features in forming the various sections and indicators of the draft plan, above all the indicators of acceleration of scientific-technical progress, resource conservation, regional development, capital construction, and foreign economic relations on the basis of the need for full observance of the provisions of the USSR Law on the State Enterprise (Association), that proposals be prepared on the procedure for furnishing the material and technical resources to meet the volume of construction and installation work which enterprises are to do by the direct labor method and finance with their own resources.

The Collegium ordered the summary department for national economic planning to work out the following:

- the new set of calculated indicators and standardized forms for USSR ministries and departments and councils of ministers of union republics to prepare the drafts of plans for economic and social development for 1989 on the basis of plans drafted independently by enterprises (associations);
- proposals on the structure of the draft of the State Plan for the USSR's Economic and Social Development in 1989;
- drafts of a regulation on the state order and a decree of USSR Gosplan on organizing the effort in USSR ministries and departments and councils of ministers of union republics to shape the composition of state orders for 1989, making provision not only for supplying the most important products (work items, services) to the national economy, but also affording enterprises (associations) broad opportunities for independently planning the production of an ever larger portion of their output on the basis of direct economic relations and contracts on the basis of the volume of production of products (work items, services) in value terms which would be set down (on a computational basis) in economic indicators as initial data for drafting plans that take into account exceeding the targets of the 5-year plan in a number of sectors.

Attention was paid to the need to be guided strictly by the requirement of the USSR Law on the State Enterprise (Association) providing establishment in the state order of the volume of deliveries of products rather than their production, as in many cases was done in preparing the draft plan for 1988.

It was decided to organize work on the key problems of the draft in good time so as to guarantee promptness and quality in preparing the draft of the State Plan for the USSR's Economic and Social Development in 1989.

It was deemed advisable to hear in a session of the Collegium the proposals of the heads of national economic complexes on guaranteeing the growth of production and delivery of consumer goods and the organization of that work with USSR ministries and departments, including an analysis of the growth rate of the production of consumer goods, the rise in the shift coefficient, the increase in the output of goods per ruble of the wage fund, and developing and putting into production new products for which there is a greater public demand at all enterprises in sectors.

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Gosplan Official Describes Formation, Use of Normatives

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[Article by G. Kiperman, head of a sector at the Scientific Research Institute of Planning and Standards under the USSR Gosplan, doctor of economic sciences, professor: "Objective Basis for Economic Normatives"]

[Text] In the new economic mechanism a central place belongs to economic normatives, which by means of economic methods of planned management should ensure the observance by every enterprise of specific public demands following from the assignments of the state plan for the country's economic and social development. For example, wage normatives—in kopecks per ruble of output or in percent per percent of increment in output—ensure a combination of the interests of society and of every labor collective. Naturally, an enterprise is interested in a wage fund increase. However, in order to attain this goal, it must envisage in the plan and actually attain a corresponding growth of the production volume. Let us assume that, if a normative at the rate of 0.3 percent of the increment in the wage fund per percent of the increment in output is set for an enterprise, in order to increase the wage fund by 3 percent, the volume of output should be raised by 10 percent.

By means of economic normatives the relationship between resources and final production results is established, public control over the measure of consumption is ensured, and the latter's dependence on the real contribution of the labor collective to the country's national income is established.

In contrast to absolute assignments economic normatives enable enterprises to freely maneuver and select ways and means for the accomplishment of production and social tasks with the observance of the national economic, intersectorial, and sectorial proportions envisaged by the state plan and direct enterprises toward

making decisions advantageous for society. They are intended to perform various regulating, distributive, stimulating, evaluating, and other functions.

However, in order that economic normatives may successfully perform their functions in the new economic mechanism, they should be scientifically substantiated and stable, be constructed according to the same principle in every sector, be approved promptly, and reflect real, objective processes. For example, it is impossible to set wage normatives per ruble of profit, commodity output, or output-capital, because the dynamics of these indicators is connected not only with the quantity and quality of labor, but also with the effect of other factors (growth of material intensiveness of production and so forth).

The normative of increment in the wage fund per percent of increase or per unit of the production volume is scientifically substantiated provided:

the production volume is determined in physical terms and material intensiveness, profitability, and structural factors do not affect its dynamics;

the production volume is established in value indicators, but free of the distorting effect of material expenditures (net output, gross income, and so forth). The Law on the Enterprise states that the wage fund can be formed according to the normative of net output or other indicators of output. However, if gross or commodity output is meant by "other gauges," as was done in the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry, the USSR Ministry of Ferrous Metallurgy, and the USSR Ministry of the Chemical Industry, this will contradict the tasks of restructuring the economic mechanism and of lending it an anti-expenditure nature.

The use of wage normatives both per physical unit and per ruble of commodity output is advisable only in sectors with a stable composition of output (coal industry, petroleum industry, and so forth).

The stimulating role of standards largely depends on the method of determination and on their value. With reference to the formation of the wage fund it is a matter of two types of normatives—incremental or leveled, each of which has its own advantages and disadvantages.

Incremental normatives can be uniform for all the sector's enterprises (with some exceptions) and ensuring their stability does not cause difficulties. However, at comparatively low annual rates of production growth (4 to 5 percent) the wage fund is determined 97 to 98 percent by its amount during the preceding year, that is, it intensifies the general orientation toward the "attained level." If the incremental normative is 0.25 to 0.3 percent, its stimulating role becomes close to zero. Moreover, at enterprises with a significant proportion of categories of piece-rate workers a growth of 1 percent in

the production volume often leads to an increase of 0.4 to 0.5 percent in the wage fund. If the incremental normative is lower than this value, a growth of the volume of output is not advantageous economically.

At high annual rates of production growth (8 to 10 percent and more) shortcomings in incremental normatives are reflected to a lesser extent.

With regard to leveled normatives in rare cases can their use be the same for all the sector's enterprises. As applied to leveled normatives it is more complicated to sustain the requirement for stability under conditions of a substantial change in the composition of output throughout the years of the five-year plan. However, their stimulating effect is more significant than that of incremental normatives, especially when they are set for net output or gross income. At the same time, periods of a big growth or reduction of the wage fund are possible.

The right to choose incremental or leveled normatives is granted to ministries. Unfortunately, however, they are simultaneously permitted to select an indicator, on whose level or increment the wage fund depends, which threatens to strengthen the positions of commodity output in the economic mechanism. Therefore, it is necessary to refine existing regulations and to establish that, irrespective of whether the indicator's increment or level is taken into account, it should be free of the distorting effect of material expenditures.

The values of economic normatives should reflect the ratios and proportions envisaged in the plan of a corresponding sector, not those actually formed at an individual enterprise. Unfortunately, such a seemingly elementary condition often is not observed. Normatives of profit distribution and formation of economic incentive funds according to the "attained level" have been set for many enterprises. In other words, actually formed amounts of funds have been converted into relative values and called normatives.

Such individual normatives do not place any public demands on enterprises, but rather adapt them to the working conditions at every enterprise. As a result, it turns out that the enterprise that has more opportunities assigns less profit to the budget, and vice versa. At unprofitable enterprises the material incentive fund per worker can prove to be bigger than at profitable enterprises.

Individual standards of profit distribution are none other than their adaptation to actually formed ratios, which sometimes reflect the random and subjective decisions that have been made. Consolidating the interrelations with the budget established during past years, individual normatives create carefree conditions during the transition to self-financing for some enterprises and unjustifiably strict conditions for others. Normatives of

deductions into the budget ranging from 10 to 70 percent based on previously existing amounts of payments can be set for enterprises under approximately the same conditions.

With the transition to self-financing norms making it possible to replace budget funds more easily from internal sources will be set for the enterprise that received more centralized capital investments for production and social development. However, enterprises that were done out of their share by the ministry during past years and received less money from centralized sources, now will also be in a worse situation, because a smaller share of the profit will remain at their disposal.

The lack of criteria for the formation of norms uniform for the sector leads to their unsubstantiated setting. As a result, the relationship between the results of activity of enterprises and the amount of their cost-accounting income—the sum of money at their disposal for the accomplishment of production and social tasks—is lost. Enterprises with a higher profitability level often assign a relatively smaller share of the profit to the budget, and vice versa. For example, the Saransk Prompribor Production Association has a profitability (in relation to productive capital) of 66 percent, but payments to the budget make up 25 percent. The Yelets Medical Equipment Plant with a profitability of 17 percent assigns 36 percent of the profit to the budget.

The practice of formation of individual norms opens up unlimited opportunities for making subjective decisions. Often values of norms depend on the ability of enterprise managers to defend their positions in ministries and their mutual relations with workers and financial and planning administrations.

It would seem that the way out of the situation that has been created is obvious: Instead of differentiated individual norms it is necessary to set unified sectorial norms for all enterprises; for example, to determine a unified norm of deductions from the profit into the fund for the development of production, science, and technology at the rate of 35 percent for all enterprises. The one that has a bigger profit will have a bigger development fund. However, such a distribution needs to be refined, because not all enterprises are under equal conditions and have the same capabilities. The different level of their technical outfitting and the composition and age of equipment are reflected in all indicators, including in the amounts of profit. However, it would be unfair to place the responsibility for the technical lag entirely on an enterprise, because both the funds for retooling and for equipment previously were allocated by the ministry. If during the distribution of capital investments it did the enterprise out of its share for a number of years, it should at least be responsible for its technical and technological lag. It is another matter if enterprises had worked under conditions of self-financing and wholesale trade in means of production for 8 to 10 years. Then they would be fully responsible for

their technical level, the age composition of equipment, the degree of mechanization, and the share of manual labor. At present, however, the objective need to take into account the differences existing among enterprises does not make it possible to use unified sectorial norms. At the same time, the conclusion on the inevitable use of individual norms drawn by many ministries is also illegitimate. It seems that such a contradiction should be resolved through the development and use of group norms.

Existing methodological documents give ministries a complete freedom of actions when setting norms. Only their composition is regulated, that is, the need to use norms of payment for capital, payments to the budget, and so forth is envisaged, but the determination of each of them for individual enterprises is the ministry's business. In our opinion, an excessive regulation limits the ministry's actions. Therefore, it should be established that ministries could differentiate norms only according to groups of enterprises (not according to individual enterprises) and objective criteria, that is, depending on profitability, labor productivity, the degree of wear of fixed productive capital, and so forth. Ministries should determine differentiation criteria on the basis of the characteristics and tasks of the sector's development, but with the observance of enterprise interests.

The fundamental question is whether we will be able to depart from the existing methods of determining incentive funds at every enterprise and to establish them on a new methodological basis, proceeding from the efficiency of production, quality of output, and other objective indicators. Or whether we will be obliged to retain basically the existing amounts of incentive funds for every enterprise and it will be only a matter of the method of increasing them depending on the final results of enterprise activity. If we adhere to this point of view, scientific principles of norm formation will be relegated to the background and it will not be possible to make the transition to uniform sectorial or group norms, because we will be doomed to the use of individual norms that are the least substantiated, but the most convenient for ministry workers.

The calculation of profit distribution norms should be preceded by a substantiation of the share left at the disposal of enterprises. In 1986 deductions into the budget in various forms made up 55 percent, 45 percent being left at the disposal of enterprises. Since under self-financing conditions enterprises finance from their own capital the part of capital investments previously financed from centralized sources, the share of profit left at the disposal of enterprises should be increased respectively. If the sum of profit subject to deduction into the budget is first determined for every sector (ministry), through a successive establishment of the sum of payment for productive capital (for some enterprises this payment can be the only one) and for labor resources according to the set standard it is possible to calculate

the remaining part that should be assigned to the budget according to norms of deductions from profit. It is obvious that in this case the setting of group norms will not require changes in the relationships with the budget.

The experience in the use of group norms of profit distribution in the USSR Ministry of Chemical and Petroleum Machine Building deserves attention. Its essence lies in the fact that a scale determining the dependence, for example, of the norm of payment for capital on the profitability of production, of the norm of depreciation deductions into the fund for the development of production, science, and technology on the degree of wear of fixed productive capital, and so forth is constructed for the formation of each type of norm.

The relationships between the results of enterprise activity and the value of the corresponding norm form the basis for the scale's construction. For example, let us take the norm of depreciation deductions into the enterprise fund for the development of production, science, and technology. It is well known that all enterprises need funds for production retooling. However, enterprises where the degree of wear of machinery and equipment is higher have a greater need. Therefore, it is possible to construct a scale for the formation of norms of depreciation deductions into the fund for the development of production, science, and technology: The bigger the wear, the higher the norm. If the average percent of wear of fixed productive capital in the sector is 40 percent, with such a wear 70 percent of the depreciation is deducted into the enterprise fund for the development of production, science, and technology for a full replacement of fixed capital and, if it is more than 40 percent, the norm of deductions increases respectively (75 percent, 80 percent, and so forth) and with a wear of less than 40 percent, decreases (65 percent, 60 percent, and so forth).

In principle, the norm of payment for capital should be uniform for all enterprises, because it reflects maximum public demands on the efficiency of utilization of productive capital. No matter what kind of enterprise gets hold of a machine tool or a unit, it must ensure an efficiency of its utilization not below the average public efficiency. However, such a demand is not feasible in practice, because unprofitable and low-profitability enterprises cannot make payments for capital to the budget. Even some enterprises with an average profitability level are unable to make them at the rate of more than 2 percent, because in this case they will not establish economic incentive funds.

For the present a differentiation of norms of payment for capital is inevitable. While unprofitable and low-profitability enterprises are exempt from it, for the rest it is determined at the rate of 2, 4, 6, or 8 percent. It

is advisable to set these norms depending on profitability: A more profitable enterprise has more opportunities for payments to the budget! Such a differentiation is a forced measure. Therefore, its limit must be narrowed gradually, so that subsequently a uniform standard at the level of 6 percent could be set. However, the entire gain (and not only a part of it) from a better utilization of productive capital should be left at the enterprise's disposal. With the use of a specific uniform scale it is possible to solve the problem of choosing between uniform and differentiated norms in favor of the latter. At the same time, a differentiation will be made not according to individual enterprises, but according to their groups, that is, all enterprises are placed under equal conditions. The demands placed on norms regulating financial deviations, which were adopted by the decree of the CPSU Central Committee and the USSR Council of Ministers "On Restructuring the Financial Mechanism and Raising the Role of the USSR Ministry of Finance Under the New Conditions of Management," will be observed:

equally stepped-up state demands on the utilization of production, labor, and natural resources by enterprises;

creation of financial conditions for forming the structure of production and its intensification and for accelerating scientific and technical progress;

balance of the needs of the state, regions, superior management bodies, and enterprises (associations) for financial resources in order to realize the assignments of long-term and current plans for economic and social development;

interconnection of the amounts of monetary assets allocated for the production and social development of enterprises (associations) and regions with the efficiency of management and final results of their activity;

optimal combination of general state, collective, and personal interests in distributive relations;

stimulation of an increase in monetary accumulations through their intensive growth factors;

financing of expenditures on developing production, meeting social needs, and providing material incentives for labor collectives from the money earned by them.

When norms of deductions from the profit to the budget are set, the level of profitability of output in relation to full production costs of output is accepted as the basic scales (groupings) in the USSR Ministry of Chemical and Petroleum Machine Building. Such a level is admissible, although the application of a uniform criterion for differentiating the norms of payment for capital and deductions from profit seems more

substantiated. This would bring the normative distribution of profit closer to the taxation provided by the Law on the Enterprise and calculated for a gradual leveling of the conditions of enterprise functioning.

However, the positive experience in the evaluation of group norms applied in the USSR Ministry of Chemical and Petroleum Machine Building does not mean at all that they can be recommended to other ministries. In particular, one cannot agree with the excessive fractionation of intervals. For example, a uniform scale for determining norms of payment for capital allowed the formation of more than 100 groups of enterprises and of more than 300 norms of deductions from profit into the budget. Such intervals bring group norms closer to individual standards, whereas the function of scales is different—transition from individual to group and, subsequently, sectorial norms.

With reference to norms of formation of economic incentive funds such experience does not yet exist. The latter are determined according to the existing "base."

Some economists, especially at plants, cast doubt on the need to approve norms of formation of economic incentive funds for enterprises. In their opinion, only norms of payments and deductions in favor of the budget and the ministry are needed. Enterprises themselves will distribute the cost-accounting income left at their disposal for the purpose of awarding bonuses, production and nonproduction construction, and so forth. No one knows better than the labor collective itself for what it is now more important to assign the money belonging to it—for awarding bonuses, housing construction, or production retooling. Why is it impossible to entrust the labor collective itself with determining the proportions in the distribution of its cost-accounting income for economic incentive funds?

Such an approach, despite its external attractiveness, in reality is erroneous and contradicts the demand for a scientific substantiation of norms and their correspondence to the proportions of the national economic plan. It is not at all a matter of distrust of the labor collective, but of the fact that an enterprise cannot know how sectorial and territorial proportions in the distribution of the national income and other general economic, physical-material, and cost relationships are formed during the planned period. Profit distribution at an enterprise level cannot be efficient and, moreover, optimal if it does not take into account sectorial, regional, and national economic proportions.

Norms of deductions into the material incentive fund, like others, should be determined on an objective basis with due regard for demands common for all and specific for a given norm. First of all, they are intended to ensure the interest of labor collectives in the growth of profit and profitability, increase in production efficiency, and improvement in the quality of output, to

give advantages in consumption to collectives that work better, and to correspond to national economic proportions between the population's monetary income and its commodity coverage and between the increase in average wages and in labor productivity. At highly profitable enterprises the material incentive fund per worker should be bigger than at profitable enterprises. Its amounts are determined depending on the results of activity of labor collectives. No one can be guaranteed a specific amount of the material incentive fund irrespective of certain results. This means that the incentive fund can not only increase, but also decrease. Social guarantees can be extended only to part of the basic wages.

It follows from the above-mentioned demands that norms of fund formation should be coordinated with wage norms, because, ultimately, it is a matter of norming wage expenditures, whose sum and increase, on the whole, are coordinated with the planned growth of production of consumer goods and paid services. Determining the forecast and then the planned rates of growth connected with the production of goods and services, it is possible to envisage substantiated norms of formation of the wage fund, taking into account that the growth of production of goods and services should outstrip the growth of the population's monetary income.

Throughout the sector the sum of funds for wages should be taken into account, because this is an elementary requirement for scientific planning having nothing in common with setting assignments "according to the attained level." The percent of increase in the planned wage fund should include, on the one hand, the rate of increment in the production of goods and services and, on the other, the rate of increment in labor productivity. For example, if it is established that per percent of the increment in the production of consumer goods and paid services the increment in the wage fund does not exceed 0.75 percent and in labor productivity, 0.5 to 0.6 percent, on the average, it is possible to calculate the planned sum of the wage fund. The proportion in the division of the planned wage fund by the wage and material incentive fund, for example, in a ratio of 90:10 or 88:12 should also be envisaged in a centralized manner.

Dividing the planned material incentive fund by the planned sum of profit, we will obtain a preliminary amount of the norm of its formation. For example, if the fund totals 216 million rubles and profit, 1.2 billion rubles, the average norm in a sector (subsector) will reach 18 percent. It must be differentiated—not according to enterprises, but according to their groups. In our opinion, this should be done according to one of the indicators of production efficiency. Naturally, not any efficiency indicator, but only that connected with the content and function of the grouping, can be taken as the basis. In our opinion, the indicator of labor productivity should become it.

However, labor productivity growth can be accompanied by an improvement or lowering of other efficiency indicators—the quality of output, material intensiveness, and output-capital. Therefore, it seems logical to us that the normative set according to the basic criterion (for example, according to the level of labor productivity) can be increased or decreased respectively within regulated limits (for example, by 20 percent). Let us assume that the average net output per worker in a subsector is equal to approximately 12,500 rubles. Accordingly, a standard of deductions into the material incentive fund is set at 18 percent for enterprises with output close to it (from 12,000 to 13,000 rubles), 19 percent, from 13,000 to 14,000 rubles, 20 percent, over 14,000, 17 percent, from 11,000 to 12,000 rubles, 16 percent, from 10,000 to 11,000 rubles, and 15 percent, less than 10,000 rubles. Thus, from 15 to 20 percent of the profit, depending on the labor productivity level, can be deducted into the incentive fund. Therefore, norms are differentiated according to groups so that 18 percent of the profit is deducted into the material incentive fund throughout a subsector.

At the same time, highly profitable enterprises are in a better position, because the bulk of the profit at them is bigger and, therefore, norms of deductions from it into the material incentive fund will be higher.

According to net output per worker it is possible to group only enterprises related in the nature of the technological process and output, that is, with a similar structure of expenditures on production.

Now it is difficult to reveal the connection between the amounts of the material incentive fund per worker and production efficiency. The incentive fund can be relatively bigger at a less efficiently operating enterprise, and vice versa. This is due to previously applied methods of forming the material incentive fund for plan overfulfillment, rates of growth, and so forth. As a result, either enterprises with understated planned assignments, or those that previously operated less efficiently and had big unutilized resources, were in a better position. The above-cited principle of grouping enterprises when setting norms can restore the indicated connection.

The distribution of the remaining sum of profit between the social development fund and the fund for the development of production, science, and technology can be made by enterprises independently, but with a certain limitation. Deductions into the production development fund should be no less than the same—for all enterprises—share of profit left at their disposal; for example, 40 percent. When determining such a share, it is necessary to proceed from the total sum of noncentralized capital investments less depreciation deductions. However, the following question can arise here: Is it necessary to establish a minimal limit of deductions into the development fund? After all, enterprises themselves are interested in them. In our opinion, this form of combining current and long-term tasks is necessary, because it

prevents possible cases of "eating away" funds intended for the retooling and reconstruction of production. In this case the interests of the labor collective are not infringed upon, because the funds invested in production development today will be recovered tomorrow through an increase in profit and in deductions into incentive funds respectively.

Normatives of deductions from the calculated profit into the ministry's (or another administrative body's) centralized fund for the development of production, science, and technology and reserves occupy a special place. It should be kept in mind that with the indicated funds and reserves general sectorial tasks are accomplished, research important for the sector is performed, temporary assistance is given to enterprises, where in connection with the mastering of the production of new articles (primarily, new-generation machinery) economic indicators are lowered, and so forth.

Such a function of centralized funds and reserves requires that all the sector's enterprises take an equal part in their formation. Unprofitable and low-profitability enterprises, as well as enterprises for which the allocation of substantial capital from centralized funds is planned in a given year, can constitute exceptions. However, in the practice of work of many ministries and departments the principles of formation of centralized funds and their role in the economic mechanism have changed significantly, that is, they have become means of profit redistribution among enterprises. At the same time, ministries take into account the need for funds on the part of enterprises engaged in production retooling. Externally, this seems correct and valid. In fact, however, full cost-accounting and self-financing principles are violated. High norms of deductions into the ministry's centralized funds and reserves are set for some enterprises and unjustifiably low norms, for others. There is no objective criterion for the differentiation of these norms. For example, the Odessa Jewelry Plant assigns 2.5 times more to the ministry's centralized funds than to the state budget. The Velikoustyugskiy Severnaya Chern Plant and the Saransk Prompribor Production Association have approximately the same profitability, but the former assigns 30 percent of the calculated profit to the ministry's centralized funds, while the latter is completely exempt from such payments.

The principles, according to which such a differentiation of norms is made, are not of a scientific nature: Those that can, not those that should, pay. Those that spend more on their own needs allocate less for the sector's requirements, and so forth. Furthermore, the deep-seated practice of financing unprofitable enterprises at the expense of advanced ones is reflected here. Otherwise, the high norms of deductions from profit for ministries, which often reach 40 and 50 percent and more, are inexplicable. For example, in 1987 the Krenbolmskaya Manufaktura Combine assigned 31 percent of the calculated profit to the budget and 43.8

percent to the ministry, 25.2 percent being left at its disposal. Meanwhile, not profit distribution norms should adapt themselves to the needs of enterprises, but, conversely, standards equally stepped-up for all should determine the share of profit left for enterprises. The latter work out on their basis their plans for production and social development in accordance with the sum of earned money received according to norms. And if there is a shortage of money, one should not revise the norms, but work better, increase profit, and raise production efficiency.

Norms of deductions into centralized funds and reserves of ministries have become a method of a hidden profit redistribution in the interest of unprofitable enterprises, or enterprises not living within their means. This despite the fact that existing regulations do not permit an intrasectorial profit redistribution. It seems to us that it is necessary to establish the maximum percent of deductions from profit into the ministry's funds and reserves.

Many enterprises seek a revision of the norms set for them, believing that they do not ensure the financing of implemented plans for the retooling and reconstruction of production and the accomplishment of social tasks. Under conditions when the process of normative formation is not based on objective criteria their claims often seem justified. In reality, however, when it is a matter of norms, in itself the fact of a shortage of funds for technical or social development is not an argument. Norms set according to scientifically substantiated criteria offer all enterprises equal opportunities "to earn" money. Those that operate less efficiently will have less money for housing and other purposes, and vice versa. This means that economic norms will better perform the stimulating functions inherent in them.

Despite the significant shortcomings in the formation of economic norms, the first year of work under the new conditions points to their unquestionable advantages over previous assignments. This gave rise to the erroneous idea on the part of many managers that all economic problems can be solved by means of norms. Proposals have appeared for introducing norms of utilization of fixed productive capital in order to overcome a reduction in output-capital, or for introducing norms of expenditures per ruble of commodity output, which would replace previous assignments for lowering production costs, and so forth. Such a path seems erroneous to us. If the palisade of indicators approved from above, which in the past "fenced in" every economic manager, is replaced with a palisade of norms, this will only do damage. The composition of norms should be optimal. Only those without which it is impossible to ensure the observance by enterprises of planned national economic proportions and an efficient combination of the interests of the state and of labor collectives should be approved from above.

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INDUSTRIAL DEVELOPMENT, PERFORMANCE

CPSU Official Interviewed on Chemical Industry Developments

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[Interview with V. Afonin, chief of the CPSU Central Committee Chemical Industry Department, by SOTSIALISTICHESKAYA INDUSTRIYA special correspondent N. Goncharov: "Chemicals and Acceleration"; first two paragraphs are editorial introduction]

[Text] The "Comprehensive Program for the Chemicalization of the USSR National Economy through the Period to the Year 2000" was adopted in 1985.

Today we publish a conversation between V. Afonin, chief of the CPSU Central Committee Chemical Industry Department, and our special correspondent N. Goncharov on how this program is being implemented and how perestroika is proceeding in the sectors of the chemical industry.

[Question] What are the priority directions in the program, Veniamin Georgiyevich?

[Answer] First an overall contraction. With its diverse and sometimes quite dissimilar output, it is less possible to call the chemical industry a separate sector of industry in the usual sense of the word. A multitude of enterprises and scientific research subdivisions cooperate closely in a common technological chain formed within the makeup of several ministries. It has become accepted that this cooperation between production facilities and the thousands of threads that link them with the entire national economy is called the country's chemical complex.

With respect to the priority directions, these are the production of synthetic resins, plastics, fibers and threads, effective mineral fertilizers, preservatives, plant protection agents, products derived from thorough oil refining, and the production of new dyes and various kinds of chemical additives and reagents. The complex program for the chemicalization of the USSR national economy is fully in line with world trends in the development of the chemical industry. It is precisely here that during the past decades the rapid breakthroughs have been made. It has become possible to provide successful substitutes for expensive natural materials, simplify the technology, and improve the quality of articles and yields from agricultural crops and the return in livestock farming. Of all the factors that determine yields, chemicalization accounts for 50 to 60 percent of all increases.

One ruble spent on fodder phosphates in livestock farming produces additional output worth R7 to R10. Enormous benefit accrues from the use of plastics in engineering, electrical engineering, agriculture, construction, domestic uses and so forth. The effect from the use of plastic pipes is very high. In automotive plants one ton of polymer materials can replace three or four tons of metal and noticeably reduce energy intensiveness and labor inputs. Chemicals are also standing on guard over health: it is the most important producer of medicines.

[Question] And how are we using its generous gifts?

[Answer] To be candid, still poorly: in general worse than in the highly developed countries despite the fact that we do have good results in some directions. Poor use is being made of plastics in automobile production. Our engineering is still only planning to introduce in 7 years the use of up to 110 kilograms of plastics in a small car. But in the United States this indicator was reached way back in 1985. What is hampering us in making a similar jump? Along with other reasons it is the shortage of polymer materials. We are still producing only small quantities of synthetic resins and plastics... We are lagging particularly in the production of progressive polymers. And the comprehensive program of chemicalization envisages considerable development in new structural materials for engineering and technical purposes, including composites, and also noncombustible plastics decorative and finishing articles and heat-resistant varnishes. The Ministry of the Chemical Industry was recently criticized in the CPSU Central Committee for failure to meet these targets.

It must be said, however, that we have succeeded in setting up large enterprises to produce polymers. The Novopolotsk "Polimer" Production Association is considered the model among them.

The Ziminskiy Chemical Plant presents quite another picture. It is also a new enterprise but, to be candid, the procedures there are still old: new capacities are not brought on line for years, little has changed in cooperation with associated enterprises, and technological discipline is poor. In my opinion, these unique "chiaroscuros" offer a graphic idea of the quite mixed picture and difficulties in transforming the polymer industry.

Changes for the better are taking place in the chemical fibers industry. More of the most progressive articles are now starting to be produced. New plants have been built in Siberia and Belorussia and existing production facilities have been significantly expanded. More than 80 percent of chemical fibers are now being now used to produce consumer goods. Some 24 percent of cotton fabrics now contain synthetic fibers. At the same time, light industry is still experiencing acute shortages of chemical fibers and yarns of the proper range and quality. Because of shortcomings in synthetic materials up to 300,000 tons of cotton are used annually for technical needs.

[Question] And what can you say about our industry in terms of agricultural fertility?

[Answer] Chemicals are playing an active part in implementation of the Food Program. Today the Soviet Union occupies the leading place in the world for mineral fertilizer production. Almost all mineral fertilizers are being produced in granular and non-compacted forms. Their nutrient content has been increased. The production of phosphate fertilizers on the base of the unique Kara-Tau deposit in Kazakhstan is developing at an accelerated pace. A powerful potassium industry has been created in the Belorussian SSR. But agriculture's demand for mineral fertilizers, chemical plant-protection agents and fodder additives is by no means being fully satisfied. Better product quality remains to be desired at many plants. Almost one-third of the areas within the country sown to field crops receive no "top dressing."

[Question] Veniamin Georgiyevich, it is common knowledge that the flow of transport facilities that require enormous quantities of fuel is growing with each passing year. Meanwhile, the oil workers are apparently not promising any substantial increase in oil recovery. And demand for tires and synthetic rubber articles is also growing. How are the enterprises of the USSR Ministry of the Petroleum Refining and Petrochemical Industry responding to this situation?

[Answer] First and foremost, by more complete refining of the oil. In addition to every possible kind of economy in the use of fuel, this is the only possible way to increase supplies of gasoline and lubricating oils, and also electrode coke for nonferrous metallurgy and raw materials for the chemical and microbiological industries. For improving the degree to which oil is refined by only one percent results in a gain of about R250 million annually for the national economy. This is well known with the sector and accordingly, in the present five-year plan attempts are being made to build another 17 complexes to increase directly the use of petroleum raw materials. Existing installations and production facilities are being modernized, but here also, things are not going as quickly as we might like...

Any buildup in output from petrochemical production is closely linked to the refining of hydrocarbons. Extending the range of rubbers with predetermined properties, for example, makes it possible to improve considerably the quality of rubber articles and conveyer belts and thus significantly increase service life for machines. This is particularly important now because only 15 rubber parts were used in the automobile of the Twenties, while there are more than 1,000 in today's KamAZ.

There is also much trouble among workers in the tire industry. Here, too, the main thing is to improve product reliability. Unfortunately, there are still complaints about the short service life of tires. But we do also have model enterprises in this subsector, as, for example, the

Omskshina Association, where the general director is Hero of Socialist Labor P.V. Buderkin. The tires produced there sell like hotcakes, as they say; which cannot be said, for example, of the output from a similar factory, namely, the Chimkent Association. The secret here is simple: the Omsk tires for the ZIL and KamAZ last for 106,000 kilometers, while those from Chimkent last less than 21,000 kilometers. Meanwhile, the equipment and technology at Chimekentshina is considerably better than in Omsk. This means that everything depends on people and their sense of organization and discipline, and their desire not to besmirch the honor of the plant trademark. Those subdivisions of the chemical complex where personnel skills and standards are not high and where the technology has not been updated for decades are also falling into their own unique kind of economic "spin" because of poor quality. This can be seen particularly graphically in the chemical-and-photographic industry. At the Tasma and Sverma production associations, for example, the products of which the largest quantities are produced are being made using old technology developed more than 20 years ago. What are the leaders of the party committees in these enterprises, and in the USSR Ministry of the Chemical Industry, waiting for? The demands being made on output quality are growing, as they say, not by the day but by the hour. The slowpokes stand in serious risk of being left behind, and this is simply not the thing. State acceptance of output is assuming increasing scales. Since this past January, more than 40 enterprises producing more than 60 percent of all output have been brought on line in the chemical complex. Of course, it is still too early to talk of a radical change, but positive trends have been noted.

But here it is apropos to say that the good intentions and useful initiatives of the chemical workers are often hampered because of shortages of good equipment. The machine builders are letting us down. Fixed capital is being renewed only slowly, and therefore more than one-third of the equipment at chemical plants is obsolescent and obsolete and has been in operation for more than 20 years. We are forced to buy much equipment abroad. The machine builders must restructure their operations more decisively. Our concern about the situation that has been created is known to the chairman of the USSR Council of Ministers Bureau for Machine Building, I.S. Silayev, and the minister of the chemical and petrochemical machine building industry, V.M. Lukyanenko, and we are counting on a most careful review of the problems that have arisen and on taking urgent steps.

[Question] And how is the chemical complex itself being restructured—its ministries, departments, and scientific research subdivisions? What is new in the leadership of this very important industrial sector at government level and in the work of the CPSU Central Committee Chemical Industry Department?

[Answer] It can now be definitely stated that perestroika in the country's chemical complex has been noticeably activated even though urgent problems are not always

being resolved in depth and on an immediate basis. The outdated stereotypes in economic thinking, departmental narrowness, constraint and bureaucracy are having their effect. The role and functions of the ministries are being changed only slowly. Even now, promising proposals and solutions sometimes move with difficulty through the habitual layers of the sector prescriptions and instructions. There are, however, flashes of fresh, out-of-the-ordinary approaches in the solutions to complex economic problems. The USSR Council of Ministers Bureau for the Chemical and Forestry Complex has been set up in order to simplify the structure of sector management, better coordinate the activity of the chemical ministries and departments and provide more effective leadership for the chemical industry. A start has been made on improvements in the management structures, particularly at the higher level. This reorganization is being conducted in all the chemical ministries. The number of top-level structural units in management has been more than halved, while the numerical strength of workers in those units is being cut 30 to 40 percent. We are convinced that the main attention of the ministry should now be focused on prospects for development in the sectors and progressive scientific and technical and investment policy.

The growing activeness of managers is now already being felt. Attention has been focused, for example, on a promising proposal from specialists in the USSR Ministry of Mineral Fertilizer Production to create a new management system for the investment process on a contract basis. It is common knowledge that we are still building production projects for the chemical industry (and not only the chemical industry!) intolerably slowly. The lead time from the adoption of decisions to build major capacities to putting them into operation is 8 to 10 years. During that time the designs become hopelessly out of date and we are relegated to the tail end of world technical progress. This is happening because the unified process of creating new production facilities has been broken down into individual stages in which none of those involved carries any material liability for the final results. The basis of the proposal from the specialists in the Ministry of Mineral Fertilizer Production is to conclude on an economic basis a single contract between the client enterprise and others involved in the investment process—the scientific research and design institutes, and the construction-and-assembly organizations, and also the local soviets—for meeting state orders for the development of production capacities. We see in this initiative the beginnings of a new economic mechanism capable of significantly accelerating scientific and technical progress in the sectors of the chemical complex.

There is scarcely any need to say that among us party workers, each business thought, each intelligent proposal capable of being useful finds immediate support! Once a month all those who have taken trips (and we travel very often!) gather on a mandatory basis in the Chemical Industry Department and discuss the most interesting things that they have learned at the local level and what

is of particular concern to party workers, managers, specialists and workers. A common opinion has taken shape on the basis of comparison of many considerations. Sectors for economics and improvements in the economic mechanism, and for scientific and technical progress and long-term development have now been set up within the department. Of course, within the framework of the existing staffing. It must be said that our sector has recently been considerably renewed. Many experienced workers have been brought in from regions where the chemical industry dominates. They include gorkom secretaries and chiefs of party obkom sectors. These people are enthusiastic, inquisitive and democratic. Without trying to replace the managers, they assess the course of perestroika from party positions, helping comrades at the local level to settle "squabbles" that arise, rapidly getting to know as many people as possible with useful experience, and actively developing the new economic thinking first and foremost among the "superintendents of perestroika."

This is particularly important now. For now increasing numbers of management functions are being transferred to the local level, directly in the labor collectives. Under the conditions of management democratization it is precisely there that the main ways should be sought to increase the activeness of each and every person and his interests in the final results of labor activity. Together with the local party organs we are striving to make a systematic approach and to outline specific programs of action to improve labor efficiency and the return from industrial potential that has been created in the chemical industry, and to accelerate the resolution of social issues. Thus, in Georgia, in Stavropol Kray and in Kuybyshev, Tula and other oblasts a set of regional measures has been drawn up to develop the chemical industry. Together with the Tyumen Obkom we have drawn up proposals for the extensive utilization of hydrocarbon raw materials, which are still being underutilized there. This will be a major chemical complex for the production of automotive fuel, plastics, synthetic rubbers and other petrochemical products, including consumer goods. If foreign firms can be interested in this program their participation in the creation of a unique complex is not excluded.

Neither should we lose sight of the activity of the ministries overall. Monitoring implementation of the economic reform, organizing the transfer of enterprises to the new management conditions, and defining the priority directions in the development of science and technology are the constant concern of each worker in the department. And, of course, the most important thing, the paramount thing in our activity is organizing compliance with the CPSU Central Committee and USSR Council of Ministers decrees affecting development of the country's chemical complex.

During the first 2 years of the current five-year plan the volume of industrial output has risen 9 percent. Output worth R1 billion above plan has been produced. The

production of consumer goods has increased by almost one-fourth, and their range considerably expanded.

The qualitative changes envisaged in the sector are particularly important. All output growth has been achieved by improvements in labor productivity. The decline in the output-capital ratio has been slowed. Profit growth rates have outstripped output growth rates. Production prime costs have been reduced more rapidly than during the last five-year plan. The number of enterprises operating at a loss has been reduced by a factor of 1.5. There have been positive changes in the social sphere. During this period the volume of housing construction has risen 15 percent.

At the same time, some of the targets of the 12th Five-Year Plan have not been met. More than one-third of the labor collectives have failed to meet contractual obligations, and the shortfall in output deliveries for clients has been almost R2 billion. There are still many violations of labor and technological discipline, which is leading to a high level of accidents and injury; in some places capacities are being underutilized.

[Question] Veniamin Georgiyevich, from what you have said it is obvious that workers in the department are, as they say, keeping their fingers on the pulse of perestroika in the chemical complex. Do their observations perhaps enable you to draw any conclusions about the most typical features of the processes that have been restructured?

[Answer] What we are seeing is to some extent typical of all industrial sectors. They are, first, the increasingly frank and candid opinions from the chemical workers on all issues of concern and the eradication of command and arbitrary management methods. And second, the assessment of difficulties and problems that arise from the economic standpoint, which has been clearly seen since the Law on the State Enterprise (or Association) went into effect. To judge from everything, those adhering to the old management methods are not so simply cured of their habits. From this standpoint a recent disagreement between the general director of the Severodonetsk Azot Production Association B.N. Leshchina and the deputy minister for mineral fertilizer production A.O. Kozhevnikov is quite typical. When the opportunity was found at the association to produce above-plan output, the deputy minister decided in the old way to distribute it at his own discretion. But this kind of administrative interference met with a sharp rebuff; for it was a matter for the labor collective, where it is more profitable to sell their own output. On behalf of the Severodonetsk chemical workers the general director decisively rejected the manifestly obsolete claims of A.O. Kozhevnikov. The minister, N.M. Olshanskiy, acted in line with the spirit of the times and supported the stance taken by the Donbass chemical workers...

[Question] How do you assess the experience gained by the USSR Ministry of the Petroleum Refining and Petrochemical Industry where all enterprises last year switched

to full cost-accounting and self-financing? To what extent is this now being used when the entire chemical industry has transferred to the new conditions.

[Answer] Our opinion is unambiguous: the results from operations by the oil refining and petrochemical industry last year speak convincingly of the great effectiveness of the new economic mechanism, the growing interest of each worker in production economics, and the great opportunities for improving labor efficiency. Judge for yourself: for each 1-percent increase in production output in the sector, a 4-percent increase in profit is being obtained—twice as much as during the last five-year plan. How is this being achieved? Mainly through the active introduction of resource-saving equipment and technologies, strengthening people's material interest in final results, and decisively moving away from "leveling." Planning and contract discipline is being strengthened at the enterprises, above-normative stocks of material resources are being noticeably reduced, and unprofitable production is being detected more actively.

In order to measure labor productivity and formation of the wages fund, instead of the commodity indicator they are using an indicator for "net output." What is the special feature of this? First and foremost it is that it reflects more fully the savings made in all kinds of resources, and hence its advantage lies in its anticost effect, and also in the fact that it is more active in providing incentive for improved production efficiency.

In 1987 for each 1-percent reduction in material consumption the USSR Ministry of the Petroleum Refining and Petrochemical Industry achieved an average of four times more growth in net output than it did for each 1-percent increase in output volume. It has become possible to reward the labor collectives better for making savings of resources. Under the normatives that have been established, each 1-percent reduction in material consumption has made possible an increase of 1.7 percent in the wages fund. All of this is having a positive effect on enterprise activity. Last year, the largest reduction in materials intensiveness during the first 3 years of the five-year plan was achieved in the sector. It is also of importance that the indicator for "net output" focuses on the acceleration of technical progress, eliminates double counting and evaluates more objectively the actual contribution made by enterprises in creating additional value from output.

I would also like to note the following feature of the economic habits of the USSR Ministry of the Petroleum Refining and Petrochemical Industry. At its best enterprises cost accounting has been brought to all the lower subdivisions, shops and brigades, and to each worker. Thus, at the Moscow Refinery, consumption norms have been drawn up for the shops and brigades, and accounts for the use of resources have been set up. Normatives have been set for the collectives for calculating wages as

a function of the volume of net output and they are being extended to the earnings giving due consideration to the labor participation of each worker.

People feel that they are the masters of production. Combined with developed self-management and the electivity of economic managers, this has created a situation of general exactingness for the results of each shift and made it possible to improve the technical-economic indicators. All contracts for the delivery of output have been completed on time. Above-plan profit has appeared in the accounting books. Labor productivity has risen almost 12 percent and the average wage by 8 percent. This is what real cost accounting means!

In general, however, not everything is going so smoothly in the sector. In some places they have transferred to cost accounting only in a token way. It has become clear that some managers have a poor idea of the new economic requirements, and many middle-level workers—shop and shift chiefs and brigade leaders—are especially poorly trained. At enterprises where literally everything should have been considered the accounting methods and control have been unreliable. Plans have not been balanced everywhere with available possibilities and resources. All of this, of course, has inevitably undermined cost-accounting relations. Within the sector it has not been possible to meet contractual obligations in full. One-fourth of enterprises have failed to cope with the profit plans. Cost accounting notwithstanding, the ministry has had to "beef up" some of its own plants from reserve funds...

It is, however, not the first joys of cost-accounting but the "stones along the road" that have something to teach us. The Chemical Industry Department has attentively studied and generalized the experience gained by the USSR Ministry of Petroleum Refining and the Petrochemical Industry and last year organized two seminars, in Omsk and Bobruysk, along the hot trails. At these seminars there was a detailed examination of both the successes and the blunders in the introduction of cost accounting. And ministry experts held a detailed discussion with local managers, while department workers gathered together the party obkom, gorkom, raykom and committee secretaries for the same kind of candid discussion. They had a common concern: how to eliminate economic incompetence more quickly?

It must be supposed that the conclusions from this experience will be drawn not only in the subdivisions of the chemical complex but also the ministries and departments associated with it. The more so because in connection with the switch to cost accounting by all our sectors, other problems have also become much more acute. The uneven responsibility of associated sectors, particularly the USSR Ministry of Power and Electrification and USSR Ministry of Railways, for the damage done through cost accounting, alarms many. What this leads to in practice can be seen very well from last year's ordeals at the Kuybyshevnefteorgsintez. During the first

quarter through absolutely no fault of its own the plan for the production of petroleum products was not met. The fact is that the heat and electric power plants in Kuybyshev were undergoing repairs and were providing less steam for industrial needs that was required, and moreover at a lower temperature. The workers at the refineries shut down a number of production facilities and during the first quarter sustained a loss of R28 million. Attempts were made to impose sanctions in the form of fines to be paid by local power workers and they did indeed receive a small gift—just R2 million. They were saved from having to pay full compensation by a convenient provision in the legislation that did not make them liable to make good the entire loss from production shortfalls but only the cost of the energy resources. We in the department have investigated the workers' complaints and we consider that the legal relationships between parties in the age of cost accounting must be urgently amended. It is called full cost accounting, which assumes the equality of contractors when rubles are lost. There should be no kind of indulgence here, otherwise we shall again breed collective dependence on a grand scale and again plunge people into the abyss of economic injustice...

Ministries are sometimes setting unjustified economic norms. But it is pleasing that the growing strength of independence for the enterprises is beginning increasingly vigorously to shake loose command methods and is encouraging more thoughtful and creative work. The planning and economic administration of the USSR Ministry of the Chemical Industry alone has received objections from 57 of its own enterprises. It has become clear that a number of collectives, as, for example, the Rubzhansk Krasitel Association, have proved their justified claims against the ministry in a well-argued way. The USSR Ministry of the Chemical Industry has been forced to take them into account when drawing up this year's plan for socioeconomic development. The USSR Gosplan is being helplessly slow in establishing principles for the scientific substantiation of norms. This is seriously hampering cost accounting.

It is the same with the practical implementation of state orders. There should be competition about their ideas. But we in the chemical complex have enterprises where the state order covers the entire volume of output. Is it really not clear that this fetters the initiative of the collectives? There is another extreme case. Striving for the quiet life, some managers themselves ask to be included in a state order for a broad range of goods. Incredible as it may be, in some ministries they willingly accede to them. In the USSR Ministry of the Chemical Industry, for example. The directive organs determined that the proportion of the state order for the ministry would be 46 percent of output, and ministry experts arbitrarily increased it to 70 percent. And this will apparently continue until we issue the provision on state orders that is being impatiently awaited everywhere. The USSR Gosplan and USSR Gosnab will have to define precisely a procedure for dealing with the state order and

the responsibility of the parties. At the same time, in the labor collectives too there should be an understanding of the new methods of plan compilation. This also applies to contract discipline. Unfortunately, not everyone yet recognizes that under the new conditions the income of a collective can grow only on the basis of more orders and lower costs.

[Question] Veniamin Georgiyevich, the great role of science in our industrial development is generally known. How can we overcome more quickly the phenomena of stagnation in the scientific research subdivisions and kindle in them a real contest of minds and talent?

[Answer] Enormous scientific forces have been concentrated in the country's chemical complex. About 50,000 scientific associates work there. Almost one-third of the scientific research institutes and design bureaus carrying on one-half of all scientific work are included in the structure of the production and scientific-production associations; which makes it possible to overcome the isolation of scientific organizations from actual practical work. Over the past 2 years more than 200 progressive technologies have been developed and 80,000 people have been freed up and moved to staff other production facilities, and through reconstruction and retooling output worth more than R1 billion has been produced.

At the same time we think that the return from science could be more significant. Perestroika is taking place slowly in science. Sometimes the level and quality of work are not in line with present-day scientific and technical requirements. Funding is dissipated on doing work that is of no scientific or practical value. In some cases the ministries have squandered sector science in providing services for existing production facilities to the detriment of development prospects. Funding institutions rather than scientific work has merely fed this kind of "science." For more than 10 years the All Union Scientific Research Institute for Synthetic Proteins has been working on technology to make fodder protein from natural gas, spending R15 million for this purpose, but no well developed industrial technology has yet been developed. At the State Scientific Research and Planning Institute for the Nitrogen Industry and Organically Synthesized Products, only three percent of the scientific associates and six percent of the planners have practical work experience at enterprises in the sector. There are few talented young people among them. It is not happenstance that most of the work at this institute has remained below world levels for a decade.

The return from science can be improved only through the more energetic introduction of new economic and organizational forms that create conditions favorable for the development of creative initiative in the work of the scientific collectives. These include transferring science to full cost accounting, defining priorities for work through state orders, and extending contractual links with enterprises. Here, in our opinion, within the scientific subdivisions the person who handles the funding for

specific work should be the leader of that work and not the institute board of directors. Then scientists will act more independently, more creatively and more responsibly.

[Question] Much alarming material has recently been appearing in the press about the harmful effect of chemicals on the environment. This problem concerns us all. Under the conditions of glasnost the heat of passions is rising. What is your opinion on this issue?

[Answer] Ecological problems really do require a new approach and a sober rethinking of what we did so improvidently in the past as we tried at any price to achieve the level of production of chemical products abroad and the use of fertilizers and plant protection agents. But it must be said quite definitely that without chemicalization in agriculture, high and stable yields cannot be obtained. All practical work in world farming indicates this. It is quite another thing that during the period of rapid development in chemicals in the Sixties we formed a superficial view of the consequences of the effect of chemicals on the environment: nature, people used to say, will handle anything. This was embodied in the ill-considered schemes for siting chemical production facilities and in their extreme concentration. In the pursuit of imaginary savings in design decisions, the conservation of natural objects became the victim. A strained ecological situation has come about in individual cities.

The true state of affairs, however, was off limits to criticism. Now we are making public many of the negative phenomena in nature conservation work. Naturally, this has evoked an outburst of emotion. But some authors are irresponsibly supercharging the atmosphere of hostility toward chemicals as such. On the pages of the periodic press we quite often see pieces in which ecological problems are elucidated in a tendentious way. These pieces insistently harp on the idea that chemicals are incompatible with a clean environment. Like any extreme position, it is not as harmless as it may seem at first sight because it evokes a corresponding overreaction from the executive apparatus of the authorities, and this may sharply impede the rate of development in the country's chemical industry.

The so-called pesticide "bugbear," which scares the public, has in recent times been assiduously "fanned." But world demand for chemical plant protection agents is increasing. Yes, with unskillful use they really may cause harm, just as the same match can be used to provide warmth or burn a house to ashes. Everything depends on practical work in the use of chemical agents. In England, for decades they have been using three times as many mineral fertilizers and pesticides per hectare of arable land. But according to the World Health Organization, this has evidently not affected people and life expectancy there is increasing. The same trend is also seen in Japan and the FRG and in other countries.

The World Health Organization testifies that most acute intoxication from pesticides result from careless handling. We sometimes store them incorrectly and make careless use of chemical plant protection agents. We still have a shortage of special equipment for applying them. However, I can state with all responsibility that in our country there are very strict requirements on the content of pesticides in food products. Extreme emotional assessments should yield to scientific truth. And this is that civilization's technological progress is irreversible and that chemicals can in no way be excluded from it.

The chemical industry has at its disposal up-to-date wastefree technologies that can virtually guarantee ecological stability in any region in which they are used. Take, for example, a large production association in the Ukraine—the USSR Ministry of Mineral fertilizer Production Khimprom Association in Pervomaysk—at which production of the following is concentrated: chlorine, caustic soda, chemical plant protection agents, and a number of other products. It operates without producing effluent. All waste in the air and in water is virtually completely neutralized and purified. Biological monitoring of all emissions has been introduced. Obviously, this kind of approach also provides a constructive impetus in building up the rates of chemicalization in the national economy and in preserving the cleanness of our environment.

Here, it is essential to effect sharp improvements in standards of economic, labor and technological discipline. It is no secret that at some enterprises where use is made of leading Soviet-made or foreign technology, equipment is being operated carelessly. In some places, accidental emissions of chemical products are not regarded as extraordinary events.

Another direction in normalizing the ecological situation is the introduction of wastefree technologies and the use of automated control systems. Development of these systems has started. Considerable funds are required for this but we are going ahead with the expenditure.

The CPSU Central Committee and Soviet government have recently issued a number of special decrees on cleaning up the environment in individual parts of the country. In the first 2 years of this five-year plan total emissions of harmful substances into the atmosphere was reduced 10 percent, including 16 percent from production facilities in the chemical complex.

In early January this year the CPSU Central Committee Politburo approved government proposals for a radical restructuring of nature conservation affairs in the country. They should become a constant guide for action for everyone.

Each worker in the chemical complex is obliged to remember that he has been entrusted with an important and crucial assignment. He must have a high level of competence, creative initiative, up-to-date thinking, and

sensible precaution in production so that no harm befalls nature or people. Of course, these qualities and a high level of professional skills at work are not acquired immediately. Now, in the period of perestroyka, it is especially essential to have a well-organized system for personnel training and retraining that includes the schools, vocational and technical schools, tekhnikums, VUZ's and enterprises. This is a requirement of the decisions of the CPSU Central Committee February (1988) Plenum.

At enterprises in the chemical complex competition has been initiated to greet the 19th All-Union Party Conference in a worthy manner. Our political vanguard—the communists—are at its head. As one meets with them and is infected with the optimism of perestroyka, one is permeated with the conviction that everything entrusted to us by the party will be fulfilled with honor.

9642

REGIONAL DEVELOPMENT

Kirghiziya's Dzhumagulov Interviewed on Ministry, Oblast Changes

18200139a Frunze SOVETSKAYA KIRGIZIYA in Russian 25 Mar 88 p 2

[Interview with A. Dzhumagulov, chairman of the Council of Ministers for the Kirghiz SSR by a Kirghiz News Agency correspondent: "For the New System of Administration"]

[Text] A general plan has been developed within the republic for administering the national economy, one which calls for a radical restructuring of the work of republic and local organs of administration in the interest of ensuring that the organizational administrative structures conform to the new economic mechanism. A KIRTAG [Kirghiz News Agency] correspondent held a meeting with the chairman of the Kirghiz SSR Council of Ministers A. Dzhumagulov and asked him for answers to a number of questions.

[Question] What raised the need for changes in the administrative system?

[Answer] The republic's existing administrative system developed under conditions which involved a predominance of administrative managerial methods and extensive economic development and does not conform to the modern requirements. The administrative apparatus is excessive in size, the number of republic organs of administration is unjustifiably large and their structure is complicated.

Over the past three decades (1971-1985), a number of new ministries and departments have been formed throughout the republic (Minvuz [Ministry of Higher Educational Institutes], Minpros [Ministry of Education], Goskino [Central State Photography and Motion

Picture Establishment of the Narkompros], Goskomnefteprodukt and others) and the personnel strength of the administrative apparatus has increased from 72,000 to 110,000 or by a factor of 1.5.

At the present time, there are more than 60 ministries and departments and in excess of 20 republic social organizations operating within the Kirghiz SSR. Almost all of them have their own organs in the various areas, many of which are operating inefficiently and are failing to bring about any improvement in the status of affairs. The multiple stage nature of the administrative system, operational duplication and insufficient support for the enterprises and organizations are holding back solutions for those problems concerned with accelerating socio-economic development, paralyzing the creative initiative of the labor collectives and hindering the effective functioning of the new economic mechanism.

Meanwhile, more than 100 enterprises and associations are operating this year on a complete cost accounting and self-financing basis and they are furnishing more than 40 percent of the industrial output (enterprises and organizations of the Osh Oblagroprom [oblast agro-industrial committee], trade, Minsvyaz [Ministry of Communications], fishing industry administration and others). Next year, all industry of the agro-industrial complex, construction and other branches will operate under the new managerial conditions.

In many of them, the production structure has remained without change over an extended period of time and production specialization, cooperation and concentration are being developed only weakly. The republic's industry numbers many small enterprises, with more than 72 percent of them having less than 500 personnel. This is adversely affecting the introduction of the new managerial methods and the leading achievements of scientific-technical progress. In this regard, a need has arisen for a more rational combination of small, medium and large enterprises, the development of territorial and inter-branch associations which will employ the available resources in an efficient manner and for the formation of an administrative structure which will ensure the all-round development of the national economy throughout the republic under the new managerial conditions.

[Question] How was this work organized from a practical standpoint?

[Answer] A republic committee consisting of scientists, national economic specialists, party, soviet and economic workers was organized. Committees were created for examining recommendations for branch complexes and these committees were headed by the deputy chairmen of the Council of Ministers. Naturally, the recommendations of the ministries, departments, executive committees, scientists and specialists and also social opinion were taken into account during the course of developing the general plan

Conferences were held in the Central Committee of the Communist Party of Kirghizia and in the Council of Ministers for the Kirghiz SSR with the leaders of ministries and departments and the secretaries of primary party organizations, during which the problems concerned with improving the structure of the administrative organs and simplifying and lowering the cost of the administrative apparatus were examined.

A meeting of the republic's aktiv was held involving the participation of the first secretaries of party obkoms [oblast committees], gorkoms [municipal committees] and raykoms [rayon committees], the chairmen of oblgorrayispolkoms [oblast, municipal and rayon executive committees], members of the Central Committee of the Communist Party of Kirghizia, party and labor veterans, party and economic leaders and representatives of society, during which, in addition to other problems associated with administrative restructuring, special attention was given to discussing the recommendations for improving the organs of regional administration.

The problems associated with improving the administrative structure for the principal ministries and departments, oblasts, cities and rayons were also examined during a meeting of the permanent committee for restructuring the economic administration of the Supreme Soviet for the Kirghiz SSR.

[Question] What is the essence of the principal measures for the administrative plan?

[Answer] In our opinion, the general administrative plan as developed ensures a differentiation in the operational spheres and trends of the economic organs, ministries and departments and their concentration for the purpose of solving the problems concerned with long-range development of the branches, improving the economic mechanism and administration, introducing scientific-technical progress, training personnel and converting over mainly to a double-team administrative system in industry, construction and other branches.

The plans call for the principal volume of current operations to be raised to the level of associations, enterprises and local soviets.

Measures have been outlined for simplifying the structure and substantially reducing the administrative apparatus while simultaneously raising its operational efficiency.

The plans call for combining those ministries, departments and other administrative organs which are providing guidance for homogeneous branches or related sectors of work and for abolishing a number of ministries and departments, such as Minpros, Minvuz, Gosprofobr, Goskomsen [State Price Committee], Goskomnefteprodukt, Goskino, Goskomleskhoz and others. In the process, the personnel strength of the central staff of the ministries is being reduced by an average of 50 percent.

The general plan calls for the introduction of a basically new form for organizing the administration of large national economic complexes through the formation of a number of state committees, in addition to Gosagroprom [State Agro-industrial Committee] and Gosstroy [State Committee for Construction]:

State Committee of the Kirghiz SSR for the Production of Consumer Goods, based upon the Ministry of Local Industry with its assigned function of coordinating the work of those ministries, departments and enterprises of union subordination located on the territory of the republic, particularly the production of goods for the population;

The State Committee of the Kirghiz SSR for Transport and Motor Vehicle Highways, based upon the Ministry of Motor Vehicle Transport and Highways, the administration of the Issyk-Kul State Steamship Agency, which was changed into a production association and the Frunze and Osh Trolley-Bus Administrations that were transferred over from the Minzhilkomkhoz system, with the committee assigned the function of coordinating the work of the republic's transport organizations;

The State Committee of the Kirghiz SSR for Providing Services to the Population, based upon the Ministry of Domestic Services for the Population and a number of enterprises and organizations of Minzhilkomkhoz, with the function assigned to the committee of coordinating the work of all enterprises and organizations in providing paid services for the population;

The State Committee of the Kirghiz SSR for People's Education, based upon the abolished Ministry of Education, Ministry of Higher and Secondary Specialized Education and the State Committee of the Kirghiz SSR for Professional-Technical Education;

The State Committee of the Kirghiz SSR for the Preservation of Nature, with the transfer over to this committee of the nature preservation subunits of Minvodkhoz [Ministry of Land Reclamation and Water Resources], Goskomleskhoz, Gosagroprom, USSR Minrybkhoz and USSR Goskomgidromet;

The State Committee of the Kirghiz SSR for Labor and Social Problems, based upon the State Committee for Labor and Minsobes.

The measures outlined are making it possible to reduce the number of ministries and departments from 43 to 33. The number of structural subunits (departments and administrations) in the ministries will be reduced considerably, by roughly 40 percent, in connection with a change in their functions.

At the same time, the plans call for a strengthening of the principal element of the national economy — the enterprises and associations. The level of production concentration and specialization will be raised through the

merging of small, unprofitable and parallel operating enterprises, 22 new production associations will be created and existing ones will be strengthened. New types of associations are being created: industrial-trade, construction planning and others. The plans call for the further development of cooperatives and private trade operations.

Plans call for the increased integration of science with production and for not less than 75 percent of the workers attached to scientific-research and planning-design organizations and engaged in material production to be concentrated in scientific-production associations. In addition, the plans call for the creation of a number of scientific-production associations in branches of the national economy.

[Question] What changes are expected in the administrative structure of the agro-industrial complex?

[Answer] The existing organizational structure for the APK [agro-industrial complex] does not ensure its functioning as a complete system oriented towards the overall final result and its staff remains cumbersome and ineffective. In this regard, the plans call for measures to be carried out aimed at improving it and reducing the personnel strength of the central administrative element of Gosagroprom by 50 percent.

For the purpose of integrating science with production, six scientific-production and production associations and systems will be created, all of which will be converted over to complete cost accounting (for fruit and vegetable production, potato growing, poultry raising and others).

In order to eliminate duplication in the management of capital construction, the Glavkirgizagropromstroy Cooperative-State Association has been created based upon the Main Administration for Construction.

Improvements are being carried out in the administrative structure at the rayon level. The plans call for the elimination of RAPOs [rayon agro-industrial associations] and the creation of agrocombines, agrofirms, and inter-farm agro-industrial associations. In the process, parallel operating production and administrative elements are being eliminated. The number of administrative personnel is being reduced by more than 50 percent.

In the interest of achieving further improvements and implementing a uniform technical policy in land reclamation, a recommendation has been made to the union organs with regard to transferring Glavkirgizvodstroy of USSR Minvodkhoz and the Kirgizgiprovodkhoz Planning Institute over to the republic's Minvodkhoz.

The plans call for improvements in the organizational administrative structures within the construction complex. Four construction-planning associations will be created and work is being carried out in connection with

strengthening the construction organizations and eliminating small and unprofitable enterprises and organizations. Our plans call for changing the structure and operations of the central organs of administration, including Gosplan, Gossnab and other economic organs, restructuring the work of the staff of the Council of Ministers in conformity with the new requirements and in the process its structure and a number of departments will be changed and the number of workers will be reduced by almost one third. Those who do not meet the modern requirements, who follow old instructions and who are not searching for new and creative approaches will be released from the staffs of ministries, departments and administrative organs.

In connection with the release of more than 8,000 workers throughout the republic as a whole, a great amount of laborious work must be carried out in connection with their employment and training in new professions. In this regard, the plans call for the creation of a republic headquarters headed by the first deputy chairman of the Council of Ministers for the organization of all work concerned with worker employment.

[Question] What changes are taking place in administration at the regional level?

[Answer] Over the past few years, Talas Oblast and nine administrative rayons have been formed in the republic and six populated points have been transformed from settlements of the municipal type into cities. Beyond any doubt, all of these measures have brought about positive improvements in the economic and social development of regions. Solutions have been found for a number of problems associated with strengthening the material base.

However, life has shown that the changes in administrative-territorial division have not always been justified. Quite often they brought about an increase in the size of the administrative staff and, naturally, an increase in the flow of instructions, information, reports and so forth.

Taking into account the recommendations of the party and soviet organs and society and having consulted specialists, scientists and economic workers, we drew a conclusion regarding the feasibility of including Toktogulskiy Rayon and the city of Kara-Kul in Osh Oblast and combining Manasskiy and Kirovskiy rayons into one rayon. In this regard, the general plan calls for the abolishment of Talas Oblast and the subordination of the remaining three rayons and the city of Talas to the republic.

Taking into account the proposed abolishment of Issyk-Atinskiy Rayon and its return to the old boundaries, 15 rayons and cities, including just as earlier the city of Frunze, will be turned over to the republic level.

In connection with an expansion of the rights and a strengthening of the independence of enterprises and organizations of national economic branches, a need will arise for restructuring the work not only of ministries and departments but also the territorial organs of administration, consolidating oblasts with the exception of Osh Oblast and changing the functions and structure of the executive committees and their administrations and departments.

Towards this end, the recommendation has been made to combine Issyk-Kul and Naryn Oblasts into the one Issyk-Kul Oblast, with its center located in the city of Przhevalsk and while taking into account the prospects for creating the Issyk-Kul-Chu TPK. As the required production-domestic conditions are created, the oblast center should be shifted to the rayon of the city of Rybachye, where a large industrial-transport center is being formed.

Taking into account the proposed changes in administrative-territorial division at the oblast level throughout the republic as a whole, the plans call for the staff of the oblast soviets to be reduced by 64 administrations and departments and for a reduction of 44 percent in its personnel strength.

At the rayon and municipal level, the plans call for restructuring the staffs of rayon and municipal soviets while taking into account the increasing role and responsibility of these organs with regard to satisfying the population's requirements for food goods and services and improving the housing and other conditions of workers. Towards this end and with a considerable reduction in the RAPO staff — by 52 percent — the plans call for the other departments of gorrayispolkoms [municipal and rayon executive committees] to be strengthened somewhat.

On the whole, as a result of implementation of the measures called for in the general plan for administration, it is expected that the personnel strength of the staff of administrative organs at all levels will be reduced on the average by 26 percent throughout the republic as a whole. In the process, the savings in the wage fund, realized as a result of the reduction in the number of administrative workers will amount to almost 16 million rubles. However, the chief result of the mentioned measures is the fact that a true organizational basis is being created for converting over to economic managerial methods and to a more efficient administrative system.

[Question] Is it not true that the readers are disturbed regarding the future, especially those who have been discharged from their work?

[Answer] We are fully aware of this and we share the concern of each such individual. It can be stated directly that work will be available for those desiring to work. At the present time, committees are being created in the

republic's ministries, departments and executive committees which, based upon extensive glasnost, will examine in detail all of the employment problems of those who have been released from their jobs and they will be informed regarding existing vacancies and the opportunities available for retraining and instruction in new professions and specialties.

In conformity with a decree published by the CC CPSU and the USSR Council of Ministers, certain benefits and compensation will be issued to workers released from their jobs. Thus, a worker will be warned regarding his impending discharge at least 2 months in advance, he will be paid a discharge allowance in the amount of his average monthly earnings and his average earnings will be continued for the period of job placement, but not for more than 2 months from the date of discharge, taking into account the payment of the monthly discharge allowance.

It bears mentioning that work will not stop with the approval of the general plan for administering the republic's national economy. The measures developed must be implemented during the course of 1988. In addition, branch and regional administrative plans are presently being developed in which the problems concerned with improving the organizational administrative structures in ministries, departments, oblasts, cities and rayons must be thoroughly worked out and set forth in detail. The work is continuing.

7026

USSR Finance Official Responds To Kirghiz Budget Roundtable
18200139b Frunze SOVETSKAYA KIRGIZIYA in Russian 25 Mar 88 p 2

[Article by S. Gorbachev, deputy chief for finances and monetary circulation of USSR Ministry of Finances, Moscow: "What Will We Have for Tomorrow?"]

[Text] The USSR Ministry of Finances has examined the report received from the "roundtable" of SOVETSKAYA KIRGIZIYA (Issue for 30 December 1987). The participants in the discussion touched upon a whole series of questions concerned with the interrelationships of enterprises with the state budget.

Thus an opinion was expressed regarding the normative payment into the productive funds and it was generally recommended that it not be withdrawn from funds formed by means of internal resources. It is noted that this type of payment should be viewed as a specific rental payment by the collectives of enterprises to the state for the presentation to them for use of productive funds. It reflects the minimum requirements of society with regard to the results of their use and is directly reflected in the earned resources of enterprises.

The importance of this type of payment, taking into account the prevailing situation with the output-capital ratio, will not decline during the 12th Five-Year Plan. But the plans call for the establishment of a unified normative payment for the funds. The payments for all types of resources (including for labor and natural resources) must become the principal source for the income portion of the state budget. This is why one cannot agree with the statement that a payment should not be made into funds that are increased by means of internal resources.

Expenditures from the fund for the development of production, science and engineering must be carried out taking into account the unified requirements for the effectiveness of use of capital investments. In the process, the status of ownership does not change: the productive funds at state enterprises are the property of the state.

With regard to the norms for budgetary withholdings from computed profit (a definite stage in the conversion over to taxation), their private character is conditioned by the computational methods, based upon the indicators for the already approved five-year plan. During the 13th five-year period, the plans call for the development and use of a unified tax. The possibility of employing a tax on profit as the only type of budgetary payment is being examined at the present time and its positive and negative consequences are being evaluated.

Those who participated in the editorial board meeting correctly singled out the shortcomings of the existing system of sanctions. Work is presently nearing completion on the regulation of economic sanctions. A committee for organizing legislative work in conformity with the USSR Law Governing a State Enterprise has prepared an appropriate report for the government of the country. In it, measures are proposed for reducing the number and size of the sanctions and the system for employing them is simplified.

The "roundtable" participants correctly raised the issue of ensuring that enterprises operate under the conditions of complete cost accounting and self-financing and in the absence of debts. At the same time, the proposal regarding the need for adopting a governmental decision on the absolving of debts arouses some doubt. Experience has shown that the writing off of debts, for example in agriculture, not only fails to stimulate an increase in production efficiency but in addition it creates parasitical attitudes and strengthens negative tendencies.

It would be more correct to follow the path of financial normalization for the national economic branches and monetary circulation through the independent earning of resources based upon production intensification. Included among such measures — compensating for a deficit in internal working capital, a reduction in the

unprofitability of production and products, improvements in payment discipline and so forth. Such measures are dictated by the Law Governing a State Enterprise and by the entire program devoted to implementing a radical economic reform.

7026

Tajikistan's Khayeyev on Ministry Reorganization Proposal

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[Speech by I.Kh. Khayeyev, chairman of the TaSSR Council of Ministers, delivered in Dushanbe on 2 April 1988 in the Extraordinary 8th Session of the TaSSR Supreme Soviet, 11th Convocation; first two paragraphs are *KOMMUNIST TADZHIKISTANA* introduction]

[Excerpts] On 2 April 1988 the Extraordinary 8th Session of the TaSSR Supreme Soviet, 11th Convocation, was held in Dushanbe and took up the question of the master chart for management of the TaSSR economy.

So that the republic's public might be able to acquaint itself in advance with the basic positions on the issue under discussion, the speech of deputy I.Kh. Khayeyev, chairman of the republic's Council of Ministers, is being published today; it will be put up for discussion in the upcoming session of the TaSSR Supreme Soviet.

The draft of the new Master Chart for management of the republic's economy, which is being submitted for consideration to the present extraordinary session of the TaSSR Supreme Soviet, was drafted in keeping with the decisions of the 27th CPSU Congress and 20th Tajik CP Congress, the June (1987) Plenum of the CPSU Central Committee on radical reform of the economic mechanism and radical restructuring of management of the economy, and the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Improvement of the Activity of Republic Management Entities," which was adopted in this connection last June.

That kind of restructuring, combined with radical improvement of the quality of performance of state and economic authorities, requires that the party's course be followed toward acceleration of the socioeconomic development of the country and consequently of each of the fraternal union republics and every region. And this is possible only if the fullest advantage is taken of the socialist economic system and if all aspects of the life of Soviet society undergo democratization and renewal.

The Law on the State Enterprise (Association), which took effect on 1 January of this year, is making the independence of the basic units a reality, it affirms their rights and regulates their duties, and it affords every opportunity to take advantage of commodity-money relations on the basis of socialist legality.

Acceleration of the transition to economic methods of management plays a special role in this context, yet this cannot take place without a radical improvement of the organizational structures of management. The consequences of the administrative-command style of leadership that took shape during the decades of extensive economic development and became one of the principal reasons for its stagnation and indeed even of other negative phenomena alien to socialism have to be overcome as speedily as possible.

At the same time, the management apparatus, as is well-known, has been spreading out of proportion and has an excessive number of levels, a complicated structure, and unneeded personnel inclined to proliferation of paperwork and, most important, to petty meddling with subordinate organizations.

Today the republic's management entities have a labor force of 21,500, more than 4,000 of whom are on the central headquarter staffs of ministries and departments. When organizations performing management functions are taken into account, the size of this apparatus is almost 29,000. The work of this large army of managers inevitably results in a constant growth of directives, instructions, and guidelines which are a serious interference to the transition to economic methods.

Departmental and localistic interests still quite often win out over the interests of the entire state, regional authorities are not taking full advantage of the rights extended them, and they are interacting little with central institutions, and the central authorities in turn are not relying sufficiently on regional units in performing their tasks, nor are they taking into account the specific nature of the particular region.

Councils of ministers of union republics have been extended significant rights in the distribution of capital investments among the sectors and branches of the economy, above all in the social sphere, which is indicative of a further deepening of democratic principles in management. In our republic the industrial sector has made the transition to a two-tier system of management, and formation of TaSSR Gosagroprom from the seven ministries and departments that were abolished has made it possible to reduce the size of the central headquarters staff by 743 persons and to reduce the cost of maintaining it by more than 577,000 rubles.

Definite steps have been taken to improve the organizational structure of management in capital construction, in the trade sector, in consumer services to the public, and other branches of the nonproduction sphere as well. Thanks to consolidation of certain structural subdivisions and elimination of units operating parallel to one another, in 1986 alone the costs of maintaining the management apparatus in organizations under republic jurisdiction were reduced by almost 1.4 million rubles.

We should say at once that creation of new schemes for management of the republic's economy cannot be understood solely in terms of one more reduction of administrative-managerial personnel, although this is one of the tasks of the reorganization being carried out. We know quite well that attempts to simplify the apparatus on the basis of reduction of its staff size were repeatedly made in the past. But they were not effective, since they were carried out in the framework of unaltered functions of management organizations, planning "from above" was preserved in the context of methods of economic activity oriented toward attainment of quantitative results.

Essential changes are accordingly taking place in the functions of ministries and departments, which are being transformed from entities for day-to-day management and directive distribution of allocations and resources to agencies for multiannual planning and for the realization of scientific-technical development.

Now it is no longer necessary for them to include subdivisions for direct supervision of technological and production processes, direction of the social development of work collectives, subdivisions which handled most of the supply functions and all of the sales functions.

For instance, two administrations are being created in the apparatus of the Ministry of Local Industry—one for scientific-technical development and the other for economic planning, together with a department for deliveries and external connections, the central accounting office, and also a department for personnel and record-keeping. Of the 19 structural subdivisions 9 are left. In all, the number of structural subdivisions of central apparatuses will be reduced from 490 to 240. In the nonproduction ministries and departments structural components will be eliminated that were involved in diverse and petty interference with organizations along with certain economic functions.

In other words, the main task of every management entity in the republic and at the local level is now to create the conditions most favorable for the highly productive activity of all work collectives and to facilitate application of advances of scientific-technical progress and on that basis a sharp rise in labor productivity and radical improvement of product quality. This fundamental principle has in fact been the basis for the proposals drafted by the Tajik CP Central Committee and TaSSR Council of Ministers for restructuring management of the republic's economy and for improvement of organizational structures.

In addition to broadening the rights and independence of enterprises on the basis of full cost accounting (*khozraschet*) and self-financing, consistent with the USSR law, provision is being made for clear delineation of the

spheres and lines of activity of economic agencies, ministries, and departments so as to take into account the particular features and role of the republic's economy in the all-union division of labor.

What is more, a more astute distribution of functions among the various management entities is to be used to create better opportunities for concentrating the activity of the upper levels of management on solving those problems of economic and social development discussed above, which are crucial to the republic. Here the emphasis in current operation is naturally being transferred to the level of local soviets of people's deputies, which, as is well-known, represent the level of socialist self-management involving the largest number of people, as well as to the level of enterprises and associations. Parallelism and duplication are being eliminated in the work of management entities, their number is being reduced, and their structure is being simplified and made less expensive.

At the present time there are 45 republic and union-republic ministries and departments and a large number of public organizations operating in our republic in the sphere subject to reorganization. The draft of the new Master Chart for management of the republic's economy calls for the number of these ministries and departments to be reduced by 12 units and the number of public organizations by 10 units.

The proposals call for abolishing Minstroy, Gosstroy, Minavtodor and creating from them the TaSSR State Construction Committee, whose components would also include the republic state-cooperative association "Tadzhikagropromstroy," the trust "Dushanbemonolitstroy," and the newly organized design-construction-operational state production association "Tadzhikdorstroyeksploatatsiya."

In view of certain conditions related to approval of the Master Chart of the USSR Ministry of Construction Materials Industry by union authorities, the enterprises of this branch will be transferred to direct subordination of the committee, but should the structure not be changed, the state production association "Tadzhikstroyaterialy" will be created and made subordinate to the USSR Ministry of Construction Materials Industry and the TaSSR Council of Ministers.

The construction committee will bear full responsibility for implementing the decisions of the party and government concerning capital construction, application of the advances of scientific-technical progress and progressive forms of the organization of work, and for increasing the efficiency of construction work on that basis. It is also being given responsibility for developing the capacities of construction and installation organizations, including organizations that do work by the direct-labor method and the enterprises of the construction products industry, as well as for expert evaluation of project plans and estimates for construction of projects that have great

importance to the economy and for improvement of the setting of technical quotas and allowances and adoption of standards in construction.

In addition, the committee will have the duty of coordinating the activity of construction organizations of other ministries and departments located within the republic and of monitoring the activity of construction organizations associated with ispolkoms of local soviets of people's deputies insofar as they are performing assignments in the republic's State Plan for Economic and Social Development related to activation of production capacities, housing, and other facilities related to social welfare.

Transfer of the association "Tadzhikagropromstroy" to jurisdiction of the construction committee will make it possible to organize construction organizations unified at the regional level and on that basis to speed up solution of numerous acute problems in the social transformation of rural areas and development of the material and technical base of the agroindustrial complex. It has to be plainly stated that we see the new committee's principal task to lie in accelerated social transformation of rural areas. Thus the republic's construction complex is by and large being centralized and in effect is being unified.

On the basis of the decisions of the February (1988) Plenum of the CPSU Central Committee and the Ninth Plenum of the Tajik CP Central Committee just held on the questions of restructuring secondary schools and higher education, the proposals call for abolishing the republic's Minpros, Minvuz, and Gosprofobr and for unifying their constituent organizations and institutions into a unified TaSSR Ministry of Public Education.

We feel that this will result in more successful performance of the task of more effective use of the material and technical base, its further development and reinforcement in the light of present-day requirements of the education, upbringing, and training of the rising generation for work and for an occupation. In addition, the administrative staff at all levels will be considerably reduced and simplified. The educational institution—both the secondary school and the higher educational institution—will be given an opportunity to work more creatively and will begin to extricate itself more speedily from routine and formalism. There will be greater opportunities for achieving a truly continuous system of education in the framework of the unified scheme.

Everyone knows what immense importance is being attributed to ecological problems in our time. They are alarming humanity as a whole, and they are also acute in our republic. That is why we intend to form the TaSSR State Committee for Natural Conservation. It will bring together the existing subdivisions in the republic administration for hydrometeorology, Minvodkhoz, and TaSSR Gosagroprom, as well as the republic Fish Conservation Inspectorate of the USSR Ministry of Fish

Industry" and the republic's Gosleskhoz, which have been abolished. Other functions of Gosleskhoz are to be turned over to TaSSR Gosagroprom, in which a specialized structural subdivision will be organized.

The economic reform calls for a closer organic linkage of planning questions to the setting of prices. Consequently, the question arises of concentrating these functions under a single direction. That is why the republic Goskomsen is to be abolished and its functions transferred to TaSSR Gosplan, in which a corresponding administration is to be created.

The problems of improvement of product quality are paramount in restructuring the economic mechanism. The problems of setting standards so as to take into account attainment of the world level of products, the organization of quality control, and also closer inspection, including state acceptance, are being advanced into the foreground. The questions of state acceptance have now been transferred to jurisdiction of republic administrations of USSR Gosstandart. At the same time, the functions of quality inspection are scattered among various departmental inspectorates, and this tends to take away from exactingness and results in a duplication of effort.

In order to tighten inspection as to the quality of the product produced, especially consumer goods and the raw materials and supplies for manufacturing them, we have proposed creation of a single body that would perform these functions on the basis of an administration of Tadzhikgosstandart, whose components would include the respective subdivisions of other ministries and departments.

In order to improve the effectiveness of management of like-named sectors and branches of the economy and to eliminate duplication and parallelism, the proposed scheme for management of the sectors and branches of the economy calls for abolishing certain existing bodies and transferring their functions to other committees, ministries, and departments in the light of the particular conditions.

For instance, provision is made to abolish TaSSR Goskino and to create a corresponding subdivision within the republic's Ministry of Culture. These bodies perform the same tasks in the ideological indoctrination effort. That is why the proposed reorganization will make it possible to unify the efforts of various cultural and educational institutions, especially in rural localities, to improve the economic performance of multipurpose facilities—movie theaters used for concerts, culture palaces and culture centers, and to redistribute and concentrate creative personnel more optimally, especially in rural areas.

It is envisaged that the following would also be abolished:

- TaSSR State Committee for Gasification, whose functions are being transferred to the republic's Ministry for Housing and Municipal Services and Utilities, and the production associations "Tadzhikgazifikatsiya" and "Tadzhikstroygaz" would be created within its system;
- The Administration of Fish Industry of the TaSSR Council of Ministers and creation of the single production-sales association "Tadzhikrybprom" from its enterprises and "Tadzhikrybpromsbyt," an association of the USSR Ministry of Fish Industry which has been operating within the republic;
- The Main Archives Administration of the republic's Council of Ministers, its functions being transferred to the TaSSR Ministry of Justice.

The proposals also call for transforming the TaSSR State Committee for Publishing, Printing, and Book Trade into a state production association "Tadzhikgosizdat" with appropriate specialized production subdivisions. The entire book trade would be turned over to it, including the book trade in rural localities. The GPO would be subordinate to USSR Goskomizdat and the republic's Council of Ministers.

Measures have been outlined to intensify the integration of science and production. To be specific, provision has been made to form six new scientific-production associations, while scientific research, design, and technological organization has components of existing state production associations, scientific-production associations, and production associations. Provision has thus been made to set up NTO's for pedigree livestock raising, hygiene and epidemiology, instrumentmaking, and specialized forms of transport.

In the light of the specific character of the location and development of the productive forces, the proposal is being made that the republic's territorial-administrative structure be simplified. In the scheme being proposed Kulyab and Kurgan-Tyube Oblasts would be eliminated, and a new oblast which has been provisionally called Panch Oblast would incorporate their territory and would include the city Nurek.

It has to be stated frankly that this question has aroused disputes and objections embodying references to historical, ethnic, and other local peculiarities. But our premise in the work we did was to decide the question of regional economic division within the republic. It has nothing at all to do with ethnic peculiarities. It is a question of unifying efforts, capabilities, and resources to speed up the socioeconomic development of the region in question and the republic as a whole.

The newly created administrative entity would have impressive socioeconomic indicators. Its area would be about 25,000 square kilometers, its population

(according to data as of 1 January of this year) would be 1.65 million, and the gross output of agriculture and volume of marketable industrial output would exceed 1 billion rubles. Unified transportation connections would take on essential importance in development of the oblast's economy, above all the standard-gauge Kurgan-Tyube—Kulyab Railroad, whose construction will begin even within the present 5-year planning period. The project planning and surveying work are now in full swing.

Construction of this railroad makes it realistic to utilize the large natural potential of the oblast's eastern part, to create new enterprises there, and to bring the available population into the sphere of production. There would also be improvement in cooperation and maneuvering of labor and physical resources within the oblast.

The new administrative entity would be equivalent in its socioeconomic indicators to the country's average oblasts and our own largest oblast—Leninabad Oblast.

For practical guidance of economic and social-and-cultural construction in it, as is the case in Leninabad Oblast, plans call for creating the Main Economic Planning Administration of the oblsipolkom, which would have broad functions and powers related to drafting and supporting comprehensive plans for socioeconomic development.

In order to enhance the role of local soviets of people's deputies in management of the economy and the social sphere such functions as guaranteeing the proportional development of production and the infrastructure, increasing the production of consumer goods and the volume of paid services; compiling and implementing balances of personal money income and expenditure, jobs and labor resources, coordination of the operation of enterprises, organizations, and institutions located in their jurisdiction with respect to environmental protection and conservation and renewal of natural resources; drafting the plan for financing measures aimed at social welfare-and-cultural, highway, and capital construction from the resources of the local budget formed by virtue of deductions of enterprises and organizations in the form of the charge on resources would be transferred from republic economic and intersector entities to the ispolkoms of oblasts, cities, and rayons.

Provision is being made to allocate capital investments for development of the social sphere to the oblasts, and then local authorities would be concerned with their distribution among sectors, branches, and regions. Here it is being proposed that the right to approve project plans and estimates for cultural and consumer service projects with values up to 2 million rubles be transferred to oblsipolkoms. All of this requires a revamping of the organizational structure of the apparatus of oblast, rayon, and city soviets of people's deputies, which are also called upon to make the transition to economic methods of guidance.

Paramount attention is being paid to radical restructuring of the activity of rayon agroindustrial associations and to their transformation into unified production-economic entities.

Experience with the operation of RAPO's in the form in which they were created has shown that these entities cannot perform production functions, and they have become an additional management unit. Many directors of farms and enterprises have spoken about this repeatedly, even in our own republic. As M.S. Gorbachev said on this question in his speech at the Fourth All-Union Congress of Kolkhoz Members, "...our rayon and oblast authorities and many republic authorities are continuing to hold on to the apparatus of the RAPO so that they can exert pressure, issue commands, give instructions as before as to what should be done and when: when to plant, when to plow, and so on. They are utterly unable to restructure themselves."

As is well-known, the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On the Transition of Enterprises and Organizations of the System of USSR Gosagroprom to Full Cost Accounting and Self-Financing" established that rayon agroindustrial associations, committees, and other entities would on the basis of reference figures and state orders organize the effort to conclude contracts for delivery of products by kolkhozes, sovkhozes, and other agricultural enterprises, including products which are not part of the state order and which they sell independently.

The body of management superior to the rayon agroindustrial association is the assembly or conference of authorized representatives of enterprises and organizations making it up, in which the association's council is elected. Broad rights have been granted to that council.

It is important to note that the structure, staff, and operating costs of the administrative staff of the rayon agroindustrial association will from now on be approved by the assembly or conference of authorized representatives of the enterprises and organizations making up the association.

In drafting the Master Chart for management plans were laid even during 1988 to create seven agrofirms and agrocombines, and this needs to be undertaken everywhere so as to break up the interdepartmental partitions and turn the apparatus of the RAPO, which still stands as an instrument of pressure over the farms, into the working arms of the agroindustrial formations.

Inertness has been evident in organization of the transition to the lease contract, although they are quite aware that for agriculture this is the main road for their intensification. Many rayon leaders and farm managers have still not gotten out of the habit of working cautiously, following a rigid pattern and instructions from

above, they have not been showing the requisite initiative that is required for taking into account local peculiarities and specific conditions in achieving an organic combination of people's personal motivation and the needs of society.

Restructuring management of the republic's economy makes it possible to break down methods of management that are routine and lack initiative, to rid the management system of bureaucratic distortions, and to increase the economy's efficiency. It will reduce the size of the labor force of management entities by 5,400, or more than 25 percent, including 50 percent for the central headquarters of republic and union-republic ministries and departments and the organizations serving them, 30 percent for the oblast level of administration, and 63 percent in the middle tier.

The annual wage fund of management entities will shrink by approximately 2 million rubles. In this connection the plan is to commit as much as 70 percent of the wage saving to increasing the salaries of specialists of the new management entities, which will be performing their functions with a considerably smaller staff.

The effort to reduce the size of the apparatus will be conducted in a context of glasnost and in strict accordance with labor legislation. Measures have been worked

out for prompt job placement of the personnel whose jobs have been eliminated and for organizing (when necessary) their training and the learning of new occupations.

One of the main tasks now is to see that the apparatus at all levels of management is bolstered with highly qualified personnel capable of performing competently the tasks confronting them in the context of the new economic mechanism. Here, just as in the reduction, ministries and departments and ispolkoms of local soviets of people's deputies cannot allow any manifestations of formalism and bureaucracy. Broader use has to be made of the results of the certification of specialists that has been carried out and of making managers at various levels elective.

The major improvement in the quality of performance of republic and local management entities will undoubtedly further acceleration of the republic's economic and social development and a growth of its contribution to the country's unified national economic complex. And this is our high patriotic and international duty, one which the workers of Tajikistan will perform as always—with honor!

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AGRO-ECONOMICS, POLICY

Gosagroprom Deputy Explains Credit, Finance Under New Conditions

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SELSKOKHOZYAYSTVENNYKH I

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[Article by S. B. Valter, Deputy Director of the Finance Administration USSR Gosagroprom: "The Finances of Enterprises Under New Conditions"]

[Text] Recently positive changes have been noted within the agro-industrial complex. The profit plan has been overfulfilled for 1986 throughout the USSR Gosagroprom system; 37.9 billion rubles were generated. According to preliminary data the 1987 profit plan has almost been fulfilled (38.1 billion rubles).

Payment discipline has also improved. Overdue payments on bank loans and payments to suppliers and contractual labor by enterprises and organizations were 12-15 percent lower during each month of 1987 as compared to 1986. Credit investments have decreased by 5.6 billion rubles, and surplus capital has increased by 2.5 billion rubles in the current accounts of enterprises and organizations. This attests to the deepening of economic work, to the greater attention being given the financial aspects of management operations, and to growth in the mobilization of the enterprise's own capital for production expansion.

The economies and finances of kolkhozes and sovkhoses have been strengthened considerably. In the 4 years following the May 1982 Plenum of the CPSU Central Committee (1983-1986) kolkhoz and sovkhos profits increased by 14.3 billion rubles, or by a factor of 3.8, as compared to the same length of time prior to the plenum (1979-1982) under comparable circumstances. Payments into the budget increased by 3.1 billion rubles and appropriations from the budget decreased by 9.7 billion rubles. Kolkhoz payments into centralized union social security and social insurance funds for kolkhoz farmers increased by 3.1 billion rubles. Kolkhoz and sovkhos payments into mandatory state property-insurance funds increased by 5.8 billion rubles, and insurance compensation decreased by 4 billion rubles. Long-term credit received was 5.6 billion rubles less, and repayment of loans has increased by 5.4 billion rubles. The availability of an enterprise's own working capital has increased by an average of 6.1 billion rubles.

In this way, in the 4 years following the May 1982 Plenum of the CPSU Central Committee kolkhoz and sovkhos payments into state centralized funds and the mobilization of their own capital for expanding production have increased by over 42.5 billion rubles.

The improvement in administration and in the economic mechanism of management operations within the agroindustrial complex creates the necessary prerequisites for a qualitatively new level of work on the basis of the transition of the enterprises and organizations within the USSR Gosagroprom system to complete cost accounting and self-financing. The urgency of the given measure is dictated by the fact that the use of the enormous potential for increasing production volume is being hindered due to the inadequate utilization of contemporary economic management methods. Also intolerable is the fact that the counter-expenditure mechanism, cost-accounting methods of management and contractual relations are being introduced poorly and that a strict regimentation in economic management operations of enterprises and administrative methods for managing these operations is preserved. Many enterprises do not adjust their expenditures to the income they generate. For this reason debts related to bank loans are large. Some enterprises have spent all of their own working capital. All of this limits possibilities for production expansion and does not allow us to activate the integration process or to effectively develop specialization.

In order to stimulate continued growth in the operations efficiency of enterprises and to strengthen their interest in achieving high end results and in the radically improving food supplies to the population, the CPSU Central Committee and USSR Council of Ministers have issued the resolution, "On Transferring Enterprises and Organizations Within the System of USSR Gosagroprom to Complete Cost Accounting and Self-Financing."

What is most important in terms of the operations of enterprises under the new conditions? In our opinion, it is the sharp increase in the role of profits as a stimulus for economic activity, as a source for expanding production and as a basic factor in the counter-expenditure mechanism. This is manifested in the following.

For many years the cost of the product included certain expenditures which were not directly related to the production of this product. This includes deductions of 0.1 percent from the wage fund into the ministry (department) fund to provide bonuses to workers and to give them one-time aid, and of 0.2-0.5 percent to reward workers for introducing new techniques and progressive technologies into production; and to cover expenditures related to work and technological safety, to training cadres, to introducing efficiency innovations and economic agreements with scientific institutions, to supporting higher organizations and to providing bonuses for economizing on certain types of material resources.

In general throughout the enterprises and organizations of the USSR Gosagroprom system such expenditures comprised over 1.5 billion rubles. Now they are excluded from production costs and profits have increased by their sum total.

While they were included in production costs the aforementioned expenditures reflected the expenditure mechanism of management. The fact is that no matter how the enterprise operated, regardless of whether it tolerated losses or was profitable, these expenditures were within the limits of the plan or greater than these limits. Moreover, the enterprise did not have to concern itself about money since the expenditures were built into production costs and were covered by Gosbank loans that were available in the course of the year to accommodate plan expenditures. Now these expenditures will be implemented from economic stimulation funds created by means of deductions from profits, and credit is not extended for the latter.

In this way, changing the source of financing for the aforementioned expenditures reflects one of the most important elements in the counter-expenditure mechanism. Now the capital to cover them must actually be earned and not simply obtained from the bank.

It should be noted that the greater portion of these expenditures is related to the normal functioning of higher organs. At the same time it is becoming more difficult to obtain capital. Higher organs must delve deeper into the operations of enterprises subordinate to them and to give each one the necessary help in fulfilling the profit plan.

Increasing the role of profits is the basis for a sharp narrowing in the sphere of budget financing. In non-agricultural enterprises budget allocations remain only for new construction and large-scale technical reequipping and renovation. For other sums of budget allocations payments into the budget are curtailed. Those measures which these enterprises and organizations previously implemented by means of the budget will now be financed by means of their own resources through funds of economic stimulation or through allocations from the central fund.

In agriculture supplements to procurement prices for agricultural production and for high-weight calves are being revoked for unprofitable enterprises, as are certain forms of budget allocations. The capital that is thus made available may be directed at establishing differentiated supplements to procurement prices for particular products. Councils of ministers of union republics can redistribute among autonomous republics, krais and oblasts (rayons in republics which do not have oblast divisions) the capital that is earmarked for establishing differentiated supplements. This will enable us to more fully develop specialization of enterprises with a consideration of natural-economic production conditions.

The sum total of differentiated supplements includes:

—supplements to procurement prices for high-weight calves. In 1986 this equalled 3.7 billion rubles. The abolition of the given supplements is based on the fact that they were received by a comparatively small number of enterprises;

—50 percent supplements for exceeding the average level of product sales to the state during the preceding five-year plan in the section that deals with supplements for high-weight cattle (among agricultural enterprises in the country in general this is 0.3 billion rubles);

—supplements to procurement prices for products sold to the state by unprofitable enterprises — 10.8 billion rubles;

—reimbursement for the difference in prices for agricultural technology, motor vehicles and trailers for them — 3.1 billion rubles; for mineral fertilizers — 2.9 billion rubles;

—compensation for payment of mandatory state insurance on kolkhoz and sovkhoz property — 2.3 billion rubles;

—budget allocations previously made to unprofitable kolkhozes (with the exception of allocations directed into the building of intra-enterprise roads) — 1.6 billion rubles;

—budget allocations for plan measures of sovkhozes (capital investments, except new building of large objects, large-scale technical reconstruction and renovation; maintenance of kindergartens, compensation for losses in the housing-municipal enterprise, repayment of long-term credit, growth in norms related to the enterprise's own working capital and the development of a basic herd, the extraction, transport and application of peat as fertilizer and others) totalling 6.6 billion rubles.

In the country as a whole total capital directed into establishing differentiated supplements to procurement prices comprise 31.3 billion rubles. Its components participate in different ways in the formation of profit.

Supplements for high-weight calves (together with 50 percent supplements for exceeding the average level of product sales for the previous five-year plan) and supplements to procurement prices for products sold to the state by unprofitable enterprises do not increase profits according to the 1988 plan as compared to 1986 because they were actually received in 1986. Their inclusion in total assets for determining differentiated supplements is related to the necessity to redistribute capital with the goal of equalizing the economic management conditions of enterprises. In practice there have been cases in which supplements to procurement prices for unprofitable enterprises actually were received by some kolkhozes and sovkhozes with a profitability of over 40 percent, which does not correspond to the reason for instituting such supplements.

The difference in prices for agricultural machinery, motor vehicles and trailers for them, as well as for mineral fertilizers, arose in connection with the reexamination in July 1967 of wholesale prices for industrial

products. It was decided then that an increase in wholesale prices for some types of industrial products used in agriculture should not be reflected in the economies of agricultural enterprises. For this reason supply organizations bought agricultural equipment, motor vehicles and mineral fertilizers from supply organizations and sold them to kolkhozes and sovkhozes according to the wholesale prices for sales to agriculture which were in effect prior to the increase. The difference between these prices was reimbursed by supply organizations through specially-planned budget allocations.

The revocation of budget allocations for these purposes and their inclusion in differentiated supplements is of great economic significance. Kolkhozes and sovkhozes will be interested now in the economic utilization of technology and of mineral fertilizers and will also approach their use in an efficient manner. After all, the difference in prices for agricultural technology, motor vehicles and trailers equal, on the average, a third of their production cost, and mineral fertilizers — half.

Proceeds from the sale of agricultural products increases by the difference in prices. Nevertheless, profits increase to a smaller degree. This is related to the fact that for mineral fertilizers production cost will increase by the difference in prices and for agricultural technology, motor vehicles and trailers — by total amortization deductions in connection with increasing prices (about 450 million rubles). For this same reason profits are not increasing from inclusion in differentiated supplements of previous budget allocations for the extraction, transport and application into the soil of peat.

Increasing differentiated supplements by total budget allocations, used previously to make insurance payments for unprofitable enterprises, will also not increase profits since they were reflected in these profits. But the inclusion in differentiated supplements of capital allocated to unprofitable kolkhozes for the construction of housing and cultural-consumer facilities and for the maintenance of children's and cultural-education facilities, as well as budget allocations for planned measures in sovkhozes directly affects profit growth.

Thus, of 31.3 billion rubles of differentiated supplements for increasing profits 13 billion will be effective. As a result the profit (net income) of sovkhozes and kolkhozes will equal about 40 billion rubles according to the 1988 plan. As for profitability, it will increase from 20.9 to 28.3 percent. In 1986 it equalled 19.1 percent.

The curtailment of the sphere of budget financing and the inclusion of a significant portion of allocations for differentiated bonuses increases the significance of profits and creates a cost-accounting direction in the work of kolkhozes and sovkhozes. If budget allocations were made without being correlated with the results of operations then in the form of differentiated supplements they can comprise a larger or smaller quantity depending on the volume of production and sales of products to the

state. Consequently, the effectiveness of economic stimuli directed at increasing production output and at the most rapid fulfillment of the Food Program increases sharply.

With the transition to complete cost accounting and self-financing the introduction of a single system for distributing profits throughout all branches of the national economy increases the role of these profits, which will undoubtedly improve the moral and psychological environment in all labor collectives. The previous system for distributing profits is retained only in kolkhozes and in interfarm enterprises (organizations) to which the USSR Law on the State Enterprise (Organization) does not extend.

In transferring enterprises to self-financing we use a form of economic calculations that is based on normative profit distribution. In this case planned and actual profits of enterprises from all types of operations are distributed according to long-term stable norms confirmed by higher organs and determined on the basis of the five-year plan and of the economic indexes established for these years.

Enterprises are provided the following norms for profit distribution:

- payments for production capital, labor resources and deductions from estimated profits (income) into the state (including the local) budget. The system of determining and making payments into the budget with a consideration of production potential has been retained for sovkhozes, kolkhozes and interfarm agricultural and construction enterprises and organizations;

- deductions into centralized funds for production, scientific and technical development and into reserves of the higher organ with respect to social development and material incentives funds.

Payment norms for production funds are established for highly profitable non-agricultural enterprises and organizations at 2, 4, 6 or 8 percent of the average annual cost of fixed production funds and normalized working capital; and for labor resources — in a sum of 300 rubles per average staff employee. In regions with surplus manpower this figure equals 200 rubles. Subsidized and unprofitable enterprises can be temporarily excepted from both or one of these payments by the higher organ.

Non-plan income, expenditures and losses, including the sums that are received and disbursed in the form of economic sanctions belong to profits that remain at the disposal of enterprises.

The profit that is generated is distributed according to the following system. First a payment is made for production assets and labor resources (in kolkhozes, sovkhozes, interfarm agricultural and construction enterprises and organizations — payments into the budget

with a consideration of production potential), followed by the payment of interest for short-term bank credit. After this deductions are made into the state (including local) budget, to the higher organization for the development of a centralized fund and reserves, into the economic incentives fund and into the enterprise's reserve fund.

In enterprises using a form of economic calculations based on the normative distribution of income all proceeds from product sales, jobs and services are distributed. First material expenditures are excluded from these proceeds, followed by payments into the budget, interest for short-term credit and deductions into centralized funds and into reserves. Of the remaining cost-accounting income of the collective a fund for the development of production, science and technology and a social development fund are created according to established norms. The remaining capital represents a single fund for the reimbursement of labor which includes the wage fund and the fund for material incentives, both of which are created according to the principle of remainders.

This kind of cost-accounting form presupposes a higher level of economic relations both within the labor collective as well as between the enterprise and the higher organs or the enterprise and the state. Financially stable enterprises as well as enterprises which are striving to increase production profitability must gradually make the transition to this form.

For the financial normalization of enterprises at the initial stage of developing complete cost accounting and self-financing a preferential system has been established for distributing profits. Seventy percent of profits generated above the totals received in the calculations of economic norms for 1988-1990 remain at the disposal of enterprises and organizations and are directed according to confirmed norms into increasing the economic incentives fund, and 30 percent is transferred into the state budget.

This system does not extend to enterprises and organizations for which payment norms from profits into the budget of less than 30 percent have been confirmed. In connection with this enterprises and organizations must inform local financial organs quickly regarding the size of profits adopted in estimates of economic norms for 1988-1990.

Prior to the transition to complete cost accounting and self-financing enterprises and organizations had a large number of various funds. Now economic incentives funds that are the same are being created for them, and their development conditions are the same. The system for the development and use of such funds contain important elements of the counter-expenditure mechanism.

Previously economic incentives funds included a relatively small portion of profits and reflected the individual interests of the labor collective in the fund's use primarily for above-plan measures. Now these deductions have increased significantly and the group of measures implemented by means of the fund of economic incentives has been expanded both within the plan as well as outside it.

The material incentives fund was limited to a previously-determined portion of the wage fund (12-17 percent), which narrowed the stimulation possibilities of material incentives. Enterprises striving to decrease production costs, and in particular to decrease wage expenditures, suffered undeservedly due to the relative decrease in the size of the material incentives fund. Today its development is not related to the wage fund. Moreover, the system for developing a material incentives fund according to norms stimulates economy in the wage fund because in this case the actual profits generated above the plan within the limits of unused savings in the wage fund (as compared to the established norms) is directly transferred into the material incentives fund.

The stability of economic norms, apart from narrowing the sphere of volitional administrative decisions, creates a very necessary confidence in work for the labor collective and a conviction that the capital that is earned by the collective will not be withdrawn without reason. Economic norms are also the regulators in adhering to the established proportions when dividing up the newly-created surplus product, i.e. profits, into the consumption and savings fund.

The absence of such resulted in the following. As we know, on 1 January 1983 procurement prices were increased and supplements to them were introduced for products sold to the state by unprofitable kolkhozes and sovkhoses. Immediately deductions by enterprises into the material incentives fund increased by 1.3 billion rubles, or 70 percent. However, this was related not to the expansion of production volume but only to increased procurement prices.

A similar structure was observed in 1986, when a new system was introduced for distributing profits in sovkhoses; it was also recommended to kolkhozes. Enterprises then obtained the right to independently distribute profits that remained after payments into the budget and on interest for bank loans. Again deductions into the material incentives fund increased by 1 billion rubles (35 percent), which also was not justified.

In the aforementioned years growth in the consumption fund has significantly outstripped growth in the savings fund, which has had a negative effect on production development. Now such disproportions cannot exist because growth in the fund of economic stimulation is regulated by economic norms and must be implemented according to the degree to which profits are increased.

The social development fund differs considerably from its predecessor, the fund for socio-cultural measures, which was utilized basically for individual use (for the acquisition of passes to rest homes and sanatoriums, for rendering one-time aid to veterans of labor, for the organization of free nutrition or nutrition at a discounted price, and so forth).

The social development fund encompasses a more and more extensive circle of social measures, including the compensation of losses arising from the operation of housing-municipal enterprises and from the upkeep of children's preschool and cultural-educational facilities and pioneer camps; and compensation for the difference in prices for fuel (between existing wholesale prices and the prices that existed prior to their increase, i.e. before 1 July 1967), given to workers and employees to heat their homes.

This means that if in an enterprise losses from the operation of housing-municipal enterprises grow without justification, then the labor collective must immediately experience a shortage of capital for the acquisition of passes to rest homes and sanatoriums, for the organization of inexpensive nutrition and so forth.

The fund for the development of production, science and technology is created according to established norms from profits and amortization of deductions earmarked for the complete replacement of fixed capital. Moreover, it includes the earnings from the sale of unused property, the culling out of livestock, lease payments (if the offering of property for lease is not the basic operation), and other capital as well as capital received from the analogous centralized fund.

Fund assets guarantee a wide range of plan and above-plan measures related to capital investments, to supplementing an enterprise's own working capital, to the development of the basic herd, to operations expenses, to repaying long-term bank credit and interest on it, to expenditures associated with agreements with scientific institutions, to the implementation of testing-design and planning operations, to renovation, repair and maintenance of local roads, to the partial reimbursement of expenditures for the preparation of young specialists, to the implementation of natural conservation measures and to the financing of other production needs. In the case of a shortage of capital in an enterprise the enterprise should focus priority attention on the most effective measures since expenditures can be carried out only within the limits of existing capital (with a consideration of the possibilities for obtaining long-term credit).

A new order for implementing capital expenditures has been established. The higher organ confirms for the enterprise the limit of capital investments implemented by means of budget allocations. The remainder of capital investments are carried out only within the limits of the

capital available in the fund for the development of production, science and technology, and within the limits of obtaining and repaying bank credit.

The resolution dealing with the fact that a sovkhos can use all free financial resources at its disposal regardless of the source of these resources to finance planned measures has been developed further. Whereas previously one portion of expenditures was financed by means of profits and the other — by means of amortization, now they are carried out only by capital from one of three economic stimulation funds. Payments into the budget, the payment of interest for short-term credit and deductions into centralized funds are drawn from profits.

At the same time the social development fund and the fund for the development of production, science and technology can be combined. Thanks to this capital investments for production and non-production purposes can be financed from a single source.

As for budget allocations and long-term credit allocated under conditions of the transition toward complete cost accounting and self-financing, these are used strictly according to special purpose.

The centralized fund and reserves related to the material incentives and social development funds are formed in higher organizations — first of all, according to established norms from profits and amortization deductions earmarked for the complete replacement of fixed capital, and secondly — from profits according to established norms.

Previously their sources were the corresponding funds of enterprises and deductions from the wage fund, which increased production costs. Since this fund and reserves were created by means of the enterprise's assets, the interest of the latter in increasing profits decreased.

Deductions into the centralized fund and into reserves are carried out in one total sum and not separately. The creation of such funds at all levels of management is now one of the main economic factors in managing subordinate enterprises.

The centralized fund is used to maintain the administrative apparatus of the higher organ, to increase the training of workers, to render temporary financial aid to enterprises, to finance specific scientific-research and testing-design operations, to compensate for increased expenditures for the production of new products during product development, to compensate for losses and to create a fund for the development of production, science and technology in subsidized and unprofitable enterprises, to finance capital investments and so forth.

Reserve capital related to the material incentives fund is directed at creating the material incentives funds of subsidized and unprofitable enterprises, at providing bonuses for work associated with the introduction of

new and progressive technology, at temporary compensation for the overconsumption of the enterprise's wage fund with the stipulation of repayment, at one-time rewarding of workers and rendering aid to them, at providing bonuses according to the results of the all-union socialist competition and at other expenditures related to material incentives.

Social development fund reserves are used for shared participation in the building of housing, for obtaining passes to sanatoriums and rest homes, for the implementation of cultural-educational and physical culture measures, for the creation of similar funds in subsidized and unprofitable enterprises, for increasing such funds for collectives which are victors in all-union and branch socialist competition, and so forth.

Capital to cover losses and to develop economic stimulation funds from centralized funds and reserves is allocated to enterprises in amounts that are planned for each year of the five-year plan in accordance with a progressively diminishing scale.

In connection with increasing the role of profits as one of the main stimuli for economic operations and as the main source for expanding production, a question arises — why should profits be planned for the enterprise from above? The establishment of stable economic norms regarding payments into the budget, deductions to develop a centralized fund, reserves and economic stimulation funds interests enterprises in increasing profits. As for capital investment which previously brought forth the necessity of assigning profit plans from above, with the change in the planning system this problem also falls away. Enterprises are assigned limits on capital investment only for that portion that is financed through budget allocations. Remaining capital investments can be implemented only within the limits of the enterprise's existing own capital, the availability of material-technical resources and the opportunities to obtain credit.

The transition of enterprises and organizations within the system of USSR Gosagroprom to complete cost accounting and self-financing will enable them to achieve a stable financial state during years with unfavorable weather conditions. For this, centralized insurance funds are being created within agroindustrial organs in an amount equalling 10 percent of the profits of enterprises and organizations which process agricultural raw materials. The capital in the aforementioned fund is used to compensate agricultural, processing and trade enterprises and organizations for losses brought about by production or delivery shortfalls or by deterioration of quality of agricultural products; also, losses suffered by trade enterprises and organizations are compensated in connection with production discounts. Specific amounts are determined by agro-industrial organs.

At the same time another source for the centralized insurance fund has been determined. In particular a maximum size is established for the inter-republic

reserve fund of USSR Gosstrak [State Insurance Association]. Amounts that accumulate within the fund above the outer limit will be transferred into the centralized insurance fund of USSR Gosagroprom and will be used to strengthen the financial situation of kolkhozes, sovkhozes and other agricultural enterprises.

For the more complete reimbursement of losses arising in the case of natural disasters or unfavorable weather conditions and for achieving stability in the financial situations of kolkhozes, sovkhozes and other agricultural enterprises which have made the transition to complete cost accounting and self-financing, the level of insurance compensation in farming increases from 60 to 70 percent of the cost of the shortfall in agricultural crop yield without the use of insurance payment rates.

With the transition to complete cost accounting and self-financing of enterprises with bank loans that have not been repaid and that are due in 1987-1990, these enterprises are provided a postponement in payments for a period of up to 10 years. It should be noted that in most cases these loans were obtained by agricultural enterprises prior to 1983, i.e. before the increase in procurement prices, when the prices that were in effect did not reflect socially-necessary expenditures for production output.

With the goal of increasing the role of bank credit and its influence on accelerating the country's economic development and the strengthening of the tie between the credit mechanism and the end results of expanded reproduction, existing banks have been reorganized and new specialized banks have been created with a consideration of the special characteristics of the operations of national economic complexes. The bank system is made up of the following: USSR Gosbank, the USSR Bank for International Economic Operations, USSR Promstroybank [Bank for Industrial Building], USSR Agroprombank [Bank for the Agricultural Industry], Bank of the Housing-Municipal Industry and Social Development of the USSR and the Bank for Labor Savings and Credit of the Population of the USSR.

USSR Agroprombank has been assigned the tasks of implementing a progressive credit policy, of increasing the effectiveness of the entire system of crediting of basic operations, of financing and crediting capital investments as well as of carrying out the essential calculations within the country's agro-industrial complex. USSR Agroprombank's tasks include economic stimulation through credit and other bank means for achieving high end results in the operations of enterprises; the organization and extensive utilization of the most economic and progressive forms of credit and calculations facilitating the acceleration of payments and the turnover of working capital and the prevention of unjustified growth in reserves of commodity stocks.

Now all questions related to planning, issuance and repayment of credit and to decreasing and increasing the size of interest rates for utilizing credit are decided by enterprises and organizations in their local bank facilities on the basis of credit agreements, which determine mutual obligations and the economic responsibilities of parties.

The existing credit system foresees interest payments by the bank to enterprises and organizations for the assets in the fund for the development of production, science and technology and the social development fund that are kept in the bank's accounts.

The directors of bank facilities locally have the right to lower or raise interest rates within established limits depending on whether enterprises and organizations maintain the planned amounts of reserves of commodity stocks and adhere to planned acceleration and retention of working capital and the fulfillment of obligations regarding repayment of credit.

The USSR bank system has made the transition to a cost accounting foundation for operations and self-financing. The main index for the profitability of bank institutions is profits, which are used to develop production, social development and material incentives funds according to long-term economic norms; also, deductions are made into the centralized funds of republic and USSR banks.

The basic change that has taken place in the interrelations between enterprises and organizations and the bank is the revocation of the previously-existing sequence of payments. As we know, the sequence was related to five groups. First payments were made to cover wages, social insurance and social security, the budget and mandatory insurance. The second group consisted of payments for commodity stocks, and jobs and services rendered. This was followed by contributions of profits and other of enterprises' own capital for financing capital investment and capital repairs, the payment of fines for non-fulfillment of contractual agreements, bank loan payments and others.

Thus first and foremost preference was given to the settlement of wages, and only then did payments follow to suppliers and contractors, which also included wages for the workers of these enterprises, which should also have been paid out on a priority basis.

Under the new management conditions all payments from the accounts of enterprises and organizations are implemented in the order in which accounts documentation is received by the bank. Whereas previously wages

were reserved in the accounts of enterprises, which guaranteed payments twice monthly, now in some of these enterprises this may not happen if these enterprises are not able to restructure in the necessary fashion with the goal of increasing production profitability and of also eliminating extra reserves of equipment, raw materials and other materials. Taking into account the important socio-political significance of timely calculations regarding wages, enterprises and higher organs should implement urgent measures to strengthen payment discipline and financial normalization of enterprises under conditions of introducing the calendar sequence of payments.

Taking into account certain difficulties during the initial period of operations under the new conditions, during the first half year of 1988 it was decided to provide enterprises with short-term credit in order to allocate capital for wages when there is no money in the current account for reasons that do not have anything to do with financial-economic operations. In this case credit is not issued for overexpenditure that have been tolerated when paying out wages.

Credit is issued from a separate loan account regardless of the presence of overdue bank debts for a period of up to 10 days without the conclusion of a credit agreement. It is issued on time. When the established time has passed for repayment of credit, free remaining capital available in the current accounts of enterprises and in the accounts of economic stimulation funds is directed into covering this credit.

For every day that credit is used to pay out wages enterprises pay 0.02 percent when the credit is first obtained and subsequently this rate increases by 0.01 points. If an enterprise does not ask the bank for credit to pay wages in the course of 3 months, the new credit is issued with a levy of 0.02 percent per day. When entering credit in the account of overdue loans the size of the interest rate doubles.

If an enterprise or organization does not have its own capital to settle with regard to products (jobs and services) or the right to receive credit, the higher organ allocates capital to the enterprise from a centralized fund and from reserves with the stipulation that this capital will be repaid. If the higher organ is short on capital, credit may be extended to the enterprise.

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POLICY, ORGANIZATION

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Restructuring the Financial Mechanism in Construction

18210008 Moscow *EKONOMIKA STROITELSTVA in Russian* No 4, Apr 88 pp 77-89

[Article by A. V. Brezhenko, candidate of economic sciences and chief of the USSR Ministry's Section for Financing the Construction Complex: "Restructuring the Financing Mechanism in Construction"]

[Text] As was noted in the CPSU Central Committee and USSR Council of Ministers decree on restructuring the financing mechanism and on raising the role of the USSR Ministry of Finance under the new economic system, the undervaluation of the financing system and of economic methods for control and commodity and monetary relationships that has taken place and a slackening of economic-accountability initiatives in organizing the financing activity have been reflected negatively in the financial results of the national economy and have led to instability in the financial situation of associations and enterprises.

The main demand made on capital investment—to produce increasingly greater yield—is being realized poorly. Each ruble of capital investment now yields much less growth in national income than it gave during the Eighth Five-Year Plan. This is explained by a number of factors.

One of these is primarily a dispersion of capital investment over many jobs and the resulting prolongation of construction time, which is caused by serious errors in planning and in organizing the work. According to USSR Goskomstat [State Committee for Statistics] data, the construction time for jobs exceeds 2-fold the standard times, which themselves sometimes are too relaxed and lag behind the demands of the times. The blame for these errors can be placed equally on clients and contractors.

Increase in construction time leads to the establishment in branches of the economy of a large number of stalled construction sites. Thus, there are about 300 construction projects in the machinebuilding complex that were started more than 10 years ago and about 200 such projects in the metallurgical industry. Things are going no better in some other branches.

According to USSR Promstroybank [Bank for Financing Industrial Construction] data, in 1986 alone the late introduction into operation of fixed production assets that cost 9.8 billion rubles led to a loss in output of about 6 billion rubles of products and about 2-2.5 billion rubles of national income. During the first half of 1987 losses of output for this cause were estimated at about 1 billion rubles.

At many enterprises, the effectiveness of capital investment aimed at reequipping facilities still is not high enough. Often such reequipping comes down to the replacement of worn equipment by new equipment with similar engineering-economics indicators that does not produce growth in capacity and increase in product output, and, consequently, even the expected benefit in the form of additional growth of national income.

Some ministries, instead of developing programs for the full modernization of production assets by the sequential reequipping and rebuilding of subordinate enterprises and organizations, are, as before, spending vast amounts on maintaining in operating condition machine tools and equipment that have served their time, and also on creating new productive capacity.

These deficiencies could not help but affect the financial results. At the start of the 12th Five-Year Plan, the arrears in payments for clients and contractors reached almost 20 billion rubles. What is the reason for such a substantial failure to pay?

According to the clients, it was primarily the shortage of funds for settlements with suppliers and contracting organizations, and also with the bank for loans, that arose, basically because enterprises and organizations systematically did not nonfulfill tasks for introducing productive capacity into operation and that caused the nonfulfillment of tasks for mobilizing internal resources and plans for payments of in-house funds (profit, amortization deductions, and so on). For this reason alone, each year there is a shortfall of 6-7 billion rubles for financing capital investment.

According to the contracting organizations, the basic reasons for nonpayment are nonfulfillment by many of them of plans for profit and the loss of in-house working capital.

In attaching paramount importance to capital construction in accelerating the country's social and economic development, the 27th CPSU Congress posed the task of radically restructuring the economic mechanism in this branch of the national economy. It called for expanding the scale of construction and raising the efficiency of the investment process by reducing its duration, creating economic incentives for all construction participants to support the introduction of production capacity, apartment houses, and facilities for social purposes into operation within the standard periods, and reducing their cost and intensiveness in materials and labor. Construction performance is to be raised to a new level of industrialization and organization, construction and installing organizations are to be converted to full economic accountability and self-financing, and the rights of the builders' laboring collectives are to be expanded and their responsibility for the final results of their labor is to be increased.

During the restructuring that is being accomplished, economic prescriptions must be created that are aimed at more effective and complete use of the existing production potential, reequipping it with a view to obtaining a substantial increase in national income for each ruble invested.

In other words, a cost-reducing investment mechanism that is founded preferentially on economic methods of control, takes into account the operation of enterprises and associations, and is based on full economic accountability and self-financing must be formulated.

Right now, when a substantial portion of the capital investment that is allocated to production-type construction will be formed independently by the enterprises and associations, the role of planned redistribution of material resources and development of the construction-work program will rise. Optimal proportions between the amounts of state centralized capital investment and investments made by the enterprises (or associations) themselves must be provided for, the effect of the investments on the financial results of their activity must be increased, and a rise of at least 15 percent in capital investment effectiveness must be attained on this basis by the end of the Five-Year Plan.

The conversion of enterprises and associations to full economic accountability and self-financing requires a maximum of rapid provisioning for the returnability of funds advanced, based upon a reduction in duration of the investment cycle and the achievement of high indicators for economy in design and growth in labor productivity and profit.

Improvement of the credit-financing mechanism, primarily of the forms and methods for financing, should, as a most important part of it, play an important role in achieving the contemplated goals.

Now the system for financing will be organized in such a way that the construction of facilities for production and nonproduction purposes will be accomplished by enterprises and organizations (or associations) primarily through the fund for the development of production, science and engineering, as well as the fund for social development, centralized funds and, to an insufficient degree, bank credits.

Each of the financing sources will affect to a definite extent various aspects of the construction process and the economic activity of enterprises and organizations. A knowledge by the production collective about when and where to use most effectively the resources of the economic-incentives fund and about when and under what conditions it is possible to take on credit when funds are inadequate will help greatly here.

In so doing, it must be kept in mind that, because of the further division of bank functions and their greater specialization, the system for issuing credits will be made more rigorous from the point of view of raising the demands for their more effective use and timely return.

Unfortunately, the role of the mechanism for opening up financing in order to realize the requirements for increasing capital investment effectiveness is often undervalued: organizations look at the process of formulating financing as a humdrum, bureaucratic job. Meanwhile, at this stage—the first one, like a touchstone, a check is made of fulfillment of the main requirement—a concentration of forces and funds on the most optimal number of facilities and on observance of the construction time norms. For this reason, the process of formulating financing is transformed into a long campaign of disputes among banks, clients and contractors about the legitimacy of the bank's demands for the observance of construction time and concentration of resources. The time has come to cease this litigation—construction time should indeed meet the norm, without any exceptions. This is a very important step on the road to increasing capital investment effectiveness.

The role of contracts in the formulation of financing should be raised, and here an important place is assigned to contracting organizations, which, working under full economic accountability and self-financing, will not be able to operate profitably if the construction-time requirements for productive capacity and facilities are not observed.

It should be said in this connection that cases occur where local organs compel the builders to accept the plan without observing the norms and scatter resources in order to satisfy their own interests. These expenditures should come to an end under the USSR Law on State Enterprises (or Associations).

The matter of paying for equipment cannot be bypassed. At present, the main portion of the equipment that arrives for capital construction is paid for through bank credits. This system still does not exert an appreciable influence on improvement of its utilization. It is enough to recall that at present, a total of more than 6 billion rubles' worth of equipment that was not turned over in time for installation has been accumulated at construction projects. When it is considered that such a situation lasts for several years and each extra year of delay in turnover for erection leads to obsolescence of the equipment, then one can imagine what enormous losses the state bears from delaying use of the equipment.

Despite the fact that, under full economic accountability and self-financing the main direction for developing the system for financing capital investment will be an increase in the share of economic-incentive funds and bank credits, over the long term funds of the state budget will also be retained as a source of capital-investment

financing. This results from the necessity for the large-scale execution of housing and social-facilities construction, which local soviets undertake through their own budgets, and from the necessity for centralized financing of the development of individual branches of the national economy.

The effect of the USSR Law on the State Enterprise (or Association) intensifies the role of the working collective in increasing capital construction effectiveness. At the same time, some questions that are under the jurisdiction of central organs require further study and improvement.

It is obvious that the development of comprehensive standards for the length of the investment cycle must be undertaken right now with a view to cutting time for design and construction and bringing the enterprises (or facilities) up to the design indicators for output produced and for profitability, proceeding from the necessity to gradually reduce construction time to the level achieved in world practice. In considering the necessity for making more efficient use of newly created capacity, it would be desirable to work out a program for the combined period of startup, adjustment and assimilation of production capacity, employing, in so doing, the best domestic and foreign experience that has been gained and sharply reducing, in so doing, the existing periods for assimilating newly introduced capacity.

With a view to increasing the responsibility of clients and designers for authenticity in determining the budget-estimated cost of facilities that are being built under a centralized plan, the question about whether the actual excess in the budget-estimated cost over the originally approved cost should be compensated for by the client ministries through centralized funds and reserves should be examined.

When formulating five-year plans, a deeper study should be made of the balancing of capital investment with existing financial resources of the economic complex, proceeding from the fact that enterprises and organizations will provide, through wage funds, for the reequipping, rebuilding and expansion of existing production facilities, and for satisfying the needs of laboring collectives for housing and other social benefits, while state centralized capital investment should be aimed at solving major national-economic tasks. Questions of planning for growth of national income based on the sum of investment capital spent; problems of further reducing the budget-estimated cost of construction, especially by reducing materials intensiveness, and of utilizing the equipment acquired; and other matters urgently require review.

The work of financial economists in solving problems of increasing capital-investment effectiveness should be energized much more. Their role in this important process should not be understated. The task of increasing

capital investment effectiveness should be resolved also by taking steps to finance measures that will restore the health of branches of the national economy.

Questions about the finances of construction organizations and about problems of converting them to the new economic conditions merit earnest attention.

The financial situation in construction organizations is still complicated, although for the contracting activity as a whole the profit plan for 1987 was overfulfilled. A large number of construction organizations have serious deficiencies in their work, they do not ensure fulfillment of the chief task—the introduction of production capacity, housing, and facilities of the social sphere into operation, they allow the cost of construction and installing operations to mount, and they do not carry out the profit plan. Many organizations have not eliminated unprofitability and do not ensure the preservation of in-house operating capital, the shortage of which in some years reaches 0.8-1 billion rubles.

As a result of the measures taken, a trend toward a reduction in the number of construction organizations that are unprofitable and do not fulfill the profit plan has been observed, but even today every fourth organization fails to fulfill the profit plan, while more than 33 percent of the organizations in USSR Minvostok [Ministry of Construction in the Eastern Regions of the USSR] and 32 percent of them in USSR Minugstroy [Ministry of Construction in the Southern Regions of the USSR] fail to do so.

As inspection reports indicate, the measures worked out by ministries, main administrations and trusts for eliminating unprofitability and for raising the level of profitability of construction organizations are in many cases of a formalistic nature and are not reinforced by proper economic settlements and by concrete measures for organizing planning, production and supply, and they are not yet getting the desired results. Many managers are not achieving a radical rise in the validity of the new economic mechanism through a system of plan indicators, incentives and sanctions.

As is well known, the role of the contract has been greatly strengthened under the new system: it has become one of the most important documents on the basis of which construction operations are organized. Its basis is the authorized planned projects list, which is developed in strict accordance with the norms established for construction time.

Consequently, a detailed economic and juridical study of the contract will determine to a great extent the potential for timely introduction into operation of production capacity and fixed capital that are under construction.

Much has been done to improve this work, but the results still are not those desired. As a result, many construction organizations do not fulfill contractual

commitments, allow serious deficiencies in financing-economics activity, and pay out large sums in fines and penalties, engendering great nonproductive expenditures and losses.

During the first nine months of 1987 nonproduction expenditures and losses not only were not reduced below those of the corresponding period of the preceding year but they even rose, reaching more than 1 billion rubles, or 1.6 percent of the planned prime cost of performing construction and installing work versus 1.2 percent in 1986. To a certain extent the increase in losses can be explained by the introduction in 1986 of more rigid financial sanctions for the nonfulfillment of tasks for introducing production capacity and of quarterly production plans. However, the main reason was the occurrence of serious deficiencies in the financing and economic activity.

The conversion, beginning with 1988, of a substantial portion of construction and installing organizations to full economic accountability and self-financing is binding on many of them. For successful management of the activity, the "accumulations" of previous years must be eliminated and all the requirements must be met in complete accordance with the USSR Law on the State Enterprise (or Association).

At all levels, the principles of full economic accountability and self-financing must be studied in depth and comprehensively. However, most unfortunately, many managers do not tackle serious questions of economics and often, in discussing such matters, willingly cede this right to the economists. Such a situation cannot continue. The manager should know comprehensively the economics of his activity, its reserves, and the ways to realize them.

Work on introducing the principles of economic accountability by all participants of the investment process, providing for a more rapid rate of growth in labor productivity, implementing a most rigid savings campaign, and reducing nonproduction expenditures and losses to a minimum should occupy a most important place in improving the financial health of the construction complex.

All the activity of construction and installing organizations and enterprises should be aimed at unconditional fulfillment of the commitments to the state budget and to banks and suppliers, and at making highly efficient use of the financial resources that remain at their disposal, bearing in mind that the rate of increase in income should constantly exceed the rate of growth of expenditures.

What is sinful to conceal is that many understand that the introduction of economic accountability and self-financing means primarily a reduction in total payments into the budget and an increase in the total profit that remains at their disposal. What is more, mass media are

still being published which advocate an increase in the total profit left at the enterprises' and organizations' disposal, but in so doing they forget to say that this portion should grow as additional income is received through more rational management of the activity.

It is necessary, finally, to understand that all the decisions adopted are oriented to increasing the effectiveness of functioning of the national economy and to raising, on this basis, both the enterprises' total income and total payments into the budget.

Let us look, in this connection, in more detail at the question of increase in profit and production profitability in construction.

Profit is an economic category that characterizes the final financial results of an organization's activity. Being the final financial result of the activity, profit defines to a great extent the contribution of each construction organization to the country's national income.

Profitability of construction organizations is marked by the ratio of profit obtained to the budget estimated cost of the work done. For work based on the principles of full economic accountability, a construction organization should provide for reimbursement of the expenditures made—production outlays—and obtain from the proceeds for realized output a profit in amounts that are adequate for making payments into the budget and payments of interests on bank credit and for forming economic incentive and centralized funds.

For construction organizations on the whole, profitability now runs about 17 percent and is about equal to the optimal level necessary for converting them to full economic accountability and self-financing.

However, this average level of profitability varies from 12 to 26 percent within the ministry. Among construction organizations, the range of variation is much more, and some organizations, as was noted above, are having losses. Therefore, the first-priority task is to see to it that not only the average profitability indicator but also the level of profitability for each organization provides for conversion of it to full economic accountability and self-financing.

In considering this, enterprises and organizations that have converted to full economic accountability and self-financing or are preparing to convert to this system of economics should develop recommendations for updating the active portion of their fixed production capital, which will enable accelerated development of the construction industry and the building-materials industry and a great increase in the output and use in construction of progressive materials and structure, as well as recommendations for meeting fully the requirements for the manufacture of modern, highly productive equipment, vehicles, and powered and other tools.

It is desirable, in this connection, to conduct a certification of the technical, organizational and economic levels of construction organizations and enterprises of the building-materials and construction industries.

The solution of these problems will promote the most rapid transfer of the functions of developing the construction portion of the working documentation to the construction ministries, which will enable resources-intensiveness and construction time to be reduced. This work still is being done slowly.

It is necessary to become involved more energetically in questions of improving wages by introducing widely the collective contract and the use of progressive forms of incentives. Intramural economic accountability, including that which uses the check system, should be introduced more actively.

A firm barrier should be erected against nonproductive expenditures, losses, breakdowns, and overexpenditures of materials, wages and overhead. For this purpose, accounting and reporting must be improved and the role of financial economists must be raised in construction organizations and enterprises. Workers must develop the consciousness of the diligent proprietor for the construction site and must learn to consider the people's kopeck. All this requires of managers a firm knowledge of the business, the status of the economy, and the accounting for and skillful use of all this in the process of managing the collective.

The question of restructuring control has been tightened in construction. As yet, about 20 percent of construction and installing organizations have an operating program that comes close to 1 million rubles. These organizations do not, as a rule, stay within the norms established for overhead costs, and they overspend large sums for most classes of expenditures. However, work on the elimination of such organizations and conversion to the mobile method of operations is being done extremely slowly. Domestic and foreign practice indicates that this way of doing the work will enable the problems of erecting facilities without creating new permanently operating organizations to be solved.

It is necessary, finally, to develop master plans for control, calling for a further amalgamation within them of duplicative operating organizations and the elimination of small and poorly profitable organizations.

The introduction of contractual prices will promote successful fulfillment of the profits plan and reduction of actual expenditures. Their use in construction opens up one more opportunity in construction- organization activity that will permit additional savings of resources to be obtained.

However, many trusts are timid in engaging in this work, and their managers have not grasped all the fine points of contractual prices. Experience indicates that current work on saving resources will commence only when two-stage design is concentrated in the builders' hands.

The next step will be conversion to the formulation of contractual prices on the basis of price lists per unit of customer benefit of the construction product. Taking into account the transfer of development of the construction part of the two-stage documentation to the builders, this will be an active cost-reduction element of the economic mechanism.

A further strengthening of builders' orientation to achievement of the final results is linked with conversion to the erection of facilities with turnkey turnover. In this case the contracting organizations will take upon themselves not only the design and construction of the facilities but also the outfitting of it with equipment, and eventually execution of the startup, adjustment and alignment operations. Settlements will be made for enterprises and facilities introduced into operation, with the clients continuously making advance payments to construction organizations for their expenditures on the construction work in accordance with the contracts concluded. This will enable improvement of direct commodity and monetary relationships between client and contractor. Conversion to this procedure for mutual relationships between them can serve as the start of construction organizations configured not along regional but along technological lines and the creation, based thereon, of large mobile construction formations.

The preceding period has indicated that the new economic mechanism introduced into construction in 1987 meets the requirements of the Basic Statutes on Radical Restructuring of Control of the Economy that was approved by the June 1987 CPSU Central Committee Plenum and the USSR Law on the State Enterprise (or Association).

In accordance with the decision to convert construction organizations to full economic accountability and self-financing that was adopted and with the USSR Law on the State Enterprise (or Association), economic standards for the remaining years of the 12th Five-Year Plan have been approved. The job is to ensure stability of the approved standards and not to permit instances of violations of the rights of construction organizations and enterprise and to achieve smooth interaction of all elements under the new operating conditions.

The approved standards indicate that a large number of construction organizations and enterprises will still operate their activity by means of subsidies at the expense of organizations that work well.

At present, such ministries as USSR Minvostokstroy, USSR Minyugstroy and USSR Minuralsibstroy (Ministry of Construction in the Urals and West Siberian

Regions of the USSR] cannot operate their activity as a whole without subsidies from the budget of, respectively, 209.9, 106.8 and 48.9 million rubles.

Production and economic work should be organized in a way that will reduce to a minimum the number of organizations that require subsidies.

Ministries and agencies must take steps to improve the economic health and the financing of construction organizations by improving their production activity, making more complete use of existing reserves, reducing nonproductive expenditures and losses, eliminating

unprofitability, and increasing profitability so that, by the end of the 12th Five-Year Plan, profitable operation basically of all organizations will be ensured.

Construction and installing organizations and enterprises must aim their efforts at unconditional fulfillment of their commitments to the state budget, the banks and suppliers, and at making highly effective use of the financial resources that remain at their disposal, keeping in mind that the rate of increase in income should constantly exceed the rate of growth of expenditures.

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POLICY, ORGANIZATION

Production Reorganization in Light Industry Discussed

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[Interview with Suren Yefremovich Sarukhanov, USSR deputy trade minister, Viktor Lukich Kalyuzhnyy, chief of the Economic Planning Administration of USSR Minlegprom; Anatoliy Nikolayevich Bionchik, director of the Minsk PShO "Komsomolka"; and Viktor Ivanovich Berdnikov and Gennadiy Stepanovich Reut, director and deputy director for commercial affairs, respectively, of the Minsk Worsted Combine, by L. Shchennikova and V. Lopatin: "How Enterprises in Light Industry Are Satisfying Public Demand"; date and place not given]

[Text] According to data of USSR Goskomstat, over the period January-November 1987 622 enterprises (associations) of USSR Minlegprom (35 percent of their total number) failed to perform contract obligations; in 1986 there had been 590 such enterprises (34.4 percent). The percentage of fulfillment of contract obligations dropped to 98.8 percent (99.0 percent in 1986). Over the first 11 months of 1987 enterprises of USSR Minlegprom fell short 1.1 billion rubles in delivery of products and goods under contracts concluded and orders accepted. The editors called upon S.Ye. Sarukhanov, USSR deputy trade minister, V.L. Kalyuzhnyy, chief of the Economic Planning Administration of USSR Minlegprom, A.N. Bionchik, director of the Minsk PShO "Komsomolka," and V.I. Berdnikov and G.S. Reut, director and deputy director for commercial affairs, respectively, of the Minsk Worsted Combine, to tell about the work of the trade sector and light industry in 1987 and the reasons why the plan for contract deliveries was not fulfilled, about the measures taken to correct this situation, and also about the performance of the best enterprises, those which have fulfilled their obligations completely.

These are the answers of Suren Yefremovich Sarukhanov, USSR deputy trade minister.

[Question] Suren Yefremovich, how was operation of the trade sector and satisfaction of public demand affected by the incomplete delivery of products by enterprises of light industry?

[Answer] The situation with supplying the products of light industry to the public remains extremely strained. According to preliminary figures, sales of these goods have dropped 3.3 percent compared to 1986, including a 3.5-percent drop for clothing and underwear, 8.1 percent for leather and fabric footwear, and 1.3 percent for headgear.

The shortfall of about 1 billion rubles in delivery of products and commodities under contracts concluded and orders accepted caused a further reduction in commodity inventories. As of 1 October 1987 they were down 1.6 billion rubles from that same date in 1986 and amounted to 23.8 billion rubles, which is 3.5 billion rubles below the standard allowance.

In 1987 public demand was not satisfied for coats, suits, raincoats, sportswear, knitted underwear, and especially chrome-leather footwear. There were disruptions in the supply of goods for children everywhere. At the same time the demand for clothing, footwear, and other products of light industry has been increasing in recent years, one of the reasons being the reduction in purchases of alcoholic beverages.

The order of USSR Mintorg for fabrics, clothing, and footwear in 1987 was met at approximately 75-80 percent and at a still lower level for certain types: 56 percent for suits, 57 percent for coats, 40 percent for raincoats, 56 percent for jackets, 69 percent for shirts, 71 percent for dresses, 67 percent for knitted cotton outerwear, 63 percent for chrome-leather footwear, and 57 percent for insulated footwear.

Industry has regularly failed to fulfill plans for delivery of clothing and footwear. One out of every three enterprises of USSR Minlegprom failed to fulfill obligations for product deliveries in keeping with contracts concluded. Over the period January-November 1987 trade organizations failed to receive deliveries of 4.1 million pieces of knitted underwear, 8.1 million shirts, 1 million jackets, 11.5 million pairs of chrome-leather footwear, 400,000 pairs of felt footwear, and 38 million meters of cotton fabric.

The volume of output of children's goods has been inadequate. In 1987 production was planned below the 1980 level for almost all types of children's clothing, while the number of children had increased. Planning targets were reduced by 2.5 million coats, 5.8 million suits, and 5.6 million pairs of pants. At the same time, the plan for the production of children's goods over the period January-November 1987 was underfulfilled by 700,000 short- and full-length coats, 3.6 million dresses, 3.4 million cotton and mixed-blend shirts, and 3.5 million pairs of chrome-leather footwear.

Specialized production associations have not yet been organized to make clothing for young people and the specialized production lines that do exist at enterprises producing such footwear in small volume do not have the capacity even to meet the requirement of "Tovary dlya Molodezhi" stores.

The output of particularly fashionable goods was 1.3 billion rubles in 1986 and 4 billion rubles in 1987, but their volume of production is insufficient to meet the

entire demand. The share of particularly fashionable goods is now 5.1 percent of knitted goods, 6.7 percent of footwear, and less than 1 percent of fabrics.

At the same time, enterprises of USSR Minlegprom have not been taking full advantage of production capacities to increase the output of goods. For example, capacity utilization is only 89 percent in the garment industry, 90 percent in the knitting industry, and 91 percent in the footwear industry.

In 1987 there was an improvement in the quality of goods delivered by enterprises of USSR Minlegprom. Over the first 9 months of 1987 state trade inspectorates downgraded and rejected 7.1 percent of the linen fabrics they checked, by comparison with 3.4 percent over the same period of 1986, and the respective figures were 18.1 and 14.9 percent for sewn garments, 13.9 and 12.9 percent for knitted goods, 19.4 and 17.1 percent for leather footwear, and 8.8 and 7.8 percent for felt footwear. Over that entire period 40 million meters of fabric, 2.9 million pieces of knitwear, and 8.7 million pairs of footwear were rejected and downgraded.

All of this had an adverse effect on operation of organizations in the trade sector. The retail sales plan was underfulfilled in 1987 by 12 billion rubles, mainly because of the short supply of commodities, including products of light industry.

[Question] What has the trade sector done to offset the drop in sales because of short deliveries of products of light industry?

[Answer] USSR Mintorg has taken steps toward maximum mobilization of the sector's internal potential. Over the period January-September 1987 600 million rubles of above-allocation inventories of certain goods were put into circulation. Remainders of stale goods and goods not selling were reduced by 645 million rubles thanks to organizational measures and markdowns.

More than 50 percent of all specialized shops in the food service industry began to operate on more than one shift. This made it possible to increase sales of their own product in stores and departments selling fine groceries by 81 million rubles (5 percent), and the supply of these products to the retail network was increased by 28 million rubles (10 percent). The 2,170 cooperative food service enterprises which have been created produced an output of more than 40 million rubles.

About 130 million rubles were obtained from selling scraps and seconds. Commission trade was expanded; its sales were 3.3 billion rubles, which is 365 million more than over the corresponding period of the previous year. Sales of souvenirs on aircraft amounted to 18 million rubles.

An effort has been made to shift goods from one region of the country to another. In 1987 there were 132 interrepublic, republic, and oblast fairs held to sell surplus inventories; sales at them amounted to 4,630 million rubles, which is 560 million more than in 1986.

[Question] Does anything need to be changed in relations between the trade sector and light industry in order to improve the state of affairs?

[Answer] In our opinion it would not be advisable to make any changes at all in the elements of relations between the trade sector and light industry at the present time, when enterprises in light industry and the trade sector have made the transition to the new economic system and the Law on the State Enterprise has just taken effect, provided, of course, that USSR Minlegprom sees to the unconditional fulfillment by all subordinate enterprises of the decree of the CPSU Central Committee and USSR Council of Ministers dated 5 June 1986 and entitled "On Increasing the Responsibility of Associations, Enterprises, and Organizations for Performance of Contracts for Delivery of Products and Merchandise." It specifically provides that associations, enterprises, and organizations must on the basis of the assigned targets see that contracts are concluded with suppliers and consumers before the beginning of the year being planned, and the principal criterion used in evaluation of the results of their economic activity is 100-percent fulfillment of targets and obligations for delivery of products for production and technical purposes and consumer goods in accordance with contracts concluded. But so far enterprises of USSR Minlegprom have failed to conclude contracts with trade organizations with a face value of 1,356 million rubles, including 480 million rubles related to cooperation.

[Question] What is scheduled in 1988 to increase the pressure of the trade sector for improvement of the activity of enterprises in light industry?

[Answer] The USSR Ministry of Trade is taking steps to guarantee fulfillment of delivery contracts, to expand the assortment, to improve quality, as well as to obtain commodities by utilizing the trade sector's internal potential, and to improve the organization of trade. This January teams of specialists of USSR Mintorg went out to all union and autonomous republics and to many krais and oblasts to provide practical assistance in organizing the effort under the conditions of the new economic methods to fulfill the retail sales plan in 1988 and other indicators of development of the trade sector.

These are the responses of Viktor Lukich Kalyuzhnyy, chief of the Economic Planning Administration of USSR Minlegprom.

[Question] Viktor Lukich, what are the principal reasons that have hindered the enterprises of light industry from completely fulfilling contract obligations in 1986 and 1987?

[Answer] It has to be acknowledged in a spirit of self-criticism that beginning in 1987, under the new economic conditions, we were unable from the very outset to develop an organizational effort, to build up the necessary pace, and to fully activate economic levers. This had the result that even in January and the 1st quarter of 1987 the plan for output was not fulfilled.

The branch's operation was influenced to a considerable degree by the incomplete balance of the production plan with raw materials and supplies. The deficiency of raw materials and supplies at the beginning of the year represented commodity production of more than 3.4 billion rubles in retail prices. At the outset of 1987 balances were deficient by 14,000 tons of long flax fiber and 39,800 tons of man-made fibers and filaments, and a substantial quantity of imported pigments and auxiliary substances used in the textile industry were not purchased.

In order to supply enterprises the types of high-quality raw materials and supplies they were lacking, the ministry was compelled to take a credit from USSR Vneshtorgbank to purchase the necessary raw materials. This made it possible for us to improve certain economic indicators somewhat, including fulfillment of contractual obligations.

Unfortunately, we were let down by those we deal with—the chemical industry and agriculture. For example, from the very outset of 1987 the chemical industry was short in its deliveries of man-made fibers and filaments in the required assortment, and by the end of the year the deficiency amounted to 9,300 tons; industry fell short in delivery of more than 700 million rubles worth of commodities because of that. Pigments in the assortment called for in concluded contracts were not delivered promptly (delivery was about 1,250 tons short). The poor supply of long-fiber flax to the linen industry resulted in short delivery of 51 million rubles of fabrics.

The delivery of raw materials and supplies has been uneven from month to month. This has resulted in imposed substitutions in the assortment of goods and the payment of sizable amount of fines as a consequence.

The procedure for evaluation of performance of contractual obligations for delivery of products on the basis of group assortment has been in effect in the system of USSR Minlegprom beginning in 1978, i.e., since the time when the indicator of the volume of sales taking into account performance of delivery obligations was introduced. The group assortment for evaluation of performance of contractual obligations related to delivery of commodities that is in effect at the present time is considerably broader than that which was used in the branch up to 1987. The total number of groups considered has been tripled, including a doubling of those for textile goods, a fivefold increase of those pertaining to knitted products, and a 15-fold increase related to leather footwear.

For a number of reasons it has proven to be very difficult to convert enterprises to evaluation of performance of obligations related to commodity (product) deliveries to each consumer in the detailed assortment and with respect to all commodity characteristics defined in specifications.

At the present time, the wholesale trade link is performing poorly its main function—submitting to the enterprises of light industry a sound request for goods on the basis of the group assortment and the detailed assortment. Insufficient study of market conditions and demand for the goods of light industry has had the result that as much as 60-70 percent of the detailed assortment indicated in specifications appended to contracts are revised during the year.

Yet the lack of the necessary reserve capacity and raw materials and supplies has been holding back speedy restructuring of production. There has been a shortage of equipment and of spare parts for it, while plans for activation of new capacities and projects are not being fulfilled. All of these causes have also resulted in non-performance of contractual obligations to the trade sector. [Editors' note. Although a lengthy list of causes hindering the ministry from completely fulfilling contractual obligations was given in the response, it did not contain an evaluation of the operation of the branch itself, nor did it speak about internal potential and possibility for utilizing it.]

[Question] The operation of enterprises of light industry directly affects the operation of the trade sector. The connection between these sectors of the economy is a very close one. What elements of relations between the trade sector and light industry need to be changed in order to improve the state of affairs? How is their collaboration expected to develop in future, how can trade help to improve the operation of light industry, and what ought to be done in this regard?

[Answer] Businesslike collaboration between industry and trade is defined by 5-year agreements on organization of production, delivery, and sale of consumer goods in the 12th FYP and the decrees of the CPSU Central Committee and USSR Council of Ministers dated 20 April and 17 July 1986.

In many cases the interaction of these sectors has been quite effective. For example, in the system of BSSR Minlegprom the process of developing the assortment of goods has been formalized from the creation of industrial collections to their sale at wholesale fairs. Industrial enterprises have been extended the right to join wholesale depots in themselves approving designs (standard models) of products being developed and have been granted supplements amounting to as much as 30 percent of permanent retail prices of new goods with improved quality bearing the symbol "N." Responsibility for developing the industrial collections has been placed on enterprises and wholesale depots.

Every year as much as 70 percent of the samples in industrial collections are approved before the beginning of wholesale fairs in manufacturers' outlets and ordinary stores, which makes it possible to take the demand of the public into account. Republic wholesale fairs are being held twice a year. The specifications appended to commodity sales contracts set aside uncommitted amounts so that as models and styles are developed, new goods will be supplied to the market, including particularly fashionable goods, and they are to be sold at contract prices. The number of enterprises permitted to independently shape the assortment with respect to models and styles with a view to updating them entirely during the year has been expanded. Every quarter an agreement is reached with the trade sector on the production of new models and also on the assortment of goods difficult to sell. All of this has made it possible to reduce to half a year the period of time from development of styles and models to organization of their volume production.

At the same time, the contractual relations that exist do not always promote improved satisfaction of public demand for the goods of light industry.

The wholesale trade link has still not been operating actively enough. The order of USSR Mintorg entitled "On Measures To Further Improve Wholesale Trade," which envisaged the transition to conclusion of contracts by wholesale depots covering the entire volume of production to be manufactured by industry within the area served, is not being carried out.

Up to now every enterprise in industry has been assigned a large number of customers to whom products had to be delivered in insignificant amounts; this makes it substantially more difficult to perform contractual obligations. Requests from the trade sector which are economically unsubstantiated and whose fulfillment is unfeasible have become a means for exacting fines from the enterprises of industry, not a means of satisfying demand.

The right of the trade sector to refuse the assortment it has purchased is not equally offset by the right of industry to freely sell that assortment. This is why certain commodities move from the group of scarce commodities to the group of commodities for which demand is low (cotton and linen fabrics) and in the opposite direction (men's suits, winter coats, woolen fabrics). The economic condition of industrial enterprises suffers as a consequence, and this has been particularly perceptible during operation under the new conditions.

The enterprises in the branch are still not taking advantage of all opportunities to study demand through its own trade network. Creation of industrial-trade associations is going slowly. Nor has trade through manufacturers' outlets been developing at a sufficient pace. For example, in 1987 manufacturers' outlets sold less than 1 percent of the volume of goods produced by the branch's

enterprises. Broader use of trade through manufacturers' outlets would help to improve the operation of industry and to satisfy the requirements of customers.

During the economic experiment in ESSR Minlegprom industry and wholesale depots for trade in textile goods, clothing, and footwear were brought together into a single integral system. Joint operation over nearly 3 years has shown that this kind of association has helped to speed up the clearance of remainders of finished products and greatly increased barter transactions. For instance, in 1987 the assortment of knitted outerwear was 58 percent updated, that of sewn garments 47.5 percent, and that of leather footwear 72.7 percent. The assortment of commodities has been broadened.

This is obviously the direction in which relations should develop between light industry and trade.

[Question] What specific measures are planned for 1988 on behalf of full performance of contractual obligations?

[Answer] Under the conditions of cost accounting (khozraschet) and self-financing, enterprises have begun to appreciate more fully the requirements presented by organizations in the trade sector with respect to the assortment of goods. To be specific, the requirements of various population groups have begun to be satisfied more fully. There has been an increase in the production of goods for children, young people, and the elderly.

The output of new goods with improved quality and of especially fashionable goods which are to be sold at contract prices grew from 19.3 billion rubles in 1986 to 22.6 billion rubles in 1987. Their proportion in the total volume of production of USSR Minlegprom was 29.6 percent, as compared to 26.2 percent in 1986. Moreover, the output of particularly fashionable products grew 2.9-fold and reached 4 billion rubles. The effort in that direction will continue.

In 1988, by contrast with last year, the volume of production has been somewhat better balanced with raw materials and supplies. But up to the present time raw materials have not been supplied for production of goods worth 2.5 billion rubles in retail prices. We are especially disturbed by the performance of enterprises of Minkhimprom, which year after year fall short in delivering raw materials and supplies to us in the necessary assortment representing the production of commodities worth about 1 billion rubles.

Point 8 of the decree of the CPSU Central Committee and USSR Council of Ministers dated 20 April 1986, which allows corrections to be made in the production plan in physical terms without changing its other indicators when at the request of organizations in the trade sector there has been a change in the assortment of commodities previously agreed to, has fundamental importance for improving the satisfaction of consumer demand. As is well-known, at the present time plans in

the branch are built up on the basis of contracts concluded with consumers. In the process of the effort to carry out contracts as a function of specific demand the plans of enterprises and those for administrative areas are revised, but USSR Gosplan has not been making such adjustments for USSR Minlegprom as a whole or for the light industry ministries of the union republics. As a consequence, the ministries must be concerned not about enterprises producing the products indispensable to the consumer, but on the contrary, to compel enterprises to produce goods which are not in demand, which will lie like a "deadweight" in warehouses, in order to meet the assigned total volume of output. Such a procedure obviously needs to be changed.

Finally, shortcomings in the operation of light industry cannot be explained by objective causes alone. At many enterprises there has been substantial internal potential for improvement of product quality, for expansion of the assortment, and for increasing the volume of output. The experience of the progressive enterprises indicates that initiative, enterprise, motivation, and well-adjusted organization of production make it possible, other things being equal, to substantially improve all indicators and to discharge contractual obligations completely. This know-how needs to be disseminated as widely as possible.

These are the responses of Viktor Ivanovich Berdnikov, director, and Gennadiy Stepanovich Reut, deputy director for commercial affairs, both of the Minsk Worsted Combine.

[Question] Viktor Ivanovich, in 1987 your combine completely fulfilled the delivery plan. What was it that helped your enterprise to perform successfully? What kinds of difficulties arose?

[Answer] We fulfilled the plan, but in fact there were difficulties, quite substantial ones. First of all, we began to operate under the new economic conditions last year. Second, state acceptance was established. In January the plan was not fulfilled. But even in February we had begun to straighten out, and by the end of the quarter we had "beat" the plan.

The delivery plan became our main reference point. We reviewed all the indicators for awarding bonuses to engineers and linked them to the end result, i.e., to the combine's performance of contractual obligations. And since you do not perform contracts by manufacturing poor-quality products, especially under the conditions of state acceptance, we also linked the payment of current bonuses in shops to quality indicators.

[Question] How did cost accounting and the collective contract help in this regard?

[Answer] After the new economic conditions were introduced, it became obvious even after the 1st quarter that the income obtained would make it possible to increase

bonuses substantially. Now they amount to 65 percent of wages (previously 35 percent). Their effect as an incentive is, of course, considerably greater. And, especially important, the workers are motivated in the most direct way to improve production indicators. After all, now we earn all our resources ourselves. And we have tried to make every worker aware of that fact by establishing internal cost accounting on a broad basis.

[Question] Obviously, the orientation toward unconditional performance of contract obligations required that you undertake some revamping of your organization and structure?

[Answer] Of course. We replaced the dispatcher service with a specialized production department which has taken over all the duties of operational coordination of production. All problems related to product sales are solved with the help of computers. Now we wonder how such an immense job could have been organized without the electronic helper. In all the technological phases, in all the subdivisions, the most complete information is available on the movement of every lot, about our needs, and so on.

[Question] And not simply information—orders?

[Answer] Precisely so. A system of operational management of production has been set up which is oriented toward prompt and complete deliveries of finished products.

[Question] Gennadiy Stepanovich, even quite recently the textile workers were supplying fabrics to enterprises of their own ministry (Minlegprom) through the trade sector. Has there been any change in this strange procedure over the past year?

[Answer] We have not been aware of any changes. Sales transactions were supposed to be free at last year's fairs. But in practice supplies were still assigned to consumers. To be sure, beginning this year the stocks will be distributed not by Mintorg, but by a newly created intermediate entity—Soyuzlegssyrye. But there will be no unrestricted sales in the sense we think of it.

[Question] And how do matters stand today with sales of your product?

[Answer] Just 2 years ago our most acute problem was with sales, even though our fabrics by and large meet world standards. We went to all the fairs, but the result was not always encouraging. Now our warehouses are empty. Fashion has changed, and our fabrics are now in demand.

[Question] Perhaps the middlemen have helped?

[Answer] No, their help has been negligible.

I feel that real free trade at fairs is necessary. We ourselves must choose our own trading partners and solve all the problems with them on an operational basis. I do not conceal the fact that their number will in that case be smaller than now. But the state stands only to gain from this. At the present time we ship to 320 different consignees. That means that every month we are shipping 320 heavy-load containers half loaded or even less (that is the size of the deliveries) and sending them to various parts of the country—from Kamchatka to Kaliningrad. But if we had an authentic right to choose customers, we would sell, say, to the Tashkent Garment Association as much as they want—3 million meters, instead of 800,000 meters, and to Kishinev again five times as much as now. Nor would the Belorussians be kept "on hunger rations." Unnecessary shipments would by the same token be eliminated. Nor would we be alone in this....

Alas, at present the situation is not changing. The only change is that there are more copies of the specifications. Before there were five, and now a sixth is added for the new middleman.

[Question] Incidentally, about those specifications. Viktor Ivanovich, your performance of contractual obligations is evaluated on the basis of a group assortment, a consolidated assortment. This has not pleased everyone, and at the beginning of last year enterprises of the country's light industry were converted along with other branches to recording deliveries in the detailed assortment, i.e., in the terms set down in specifications. How did you get through those 2 months before they converted Minlegprom, by way of exception, to the old system of evaluation?

[Answer] That was a difficult period. We had reason to be upset, since even in the consolidated assortment we fulfilled the plan at only 97 percent, while in the detailed assortment it was still less: 92.5 percent.

[Question] But in principle it was possible to carry out the program in the detailed assortment?

[Answer] I think it was not possible, and in that we were not alone. Fabrics after all do not have as many commodity characteristics as, say, footwear or knitwear. Their count runs into the millions when you take into account cuts, styles, sizes, and widths. Ours run only into the hundreds, but still we have not been entirely fulfilling the specifications. Too many things are necessary to make fulfillment realistic. To be specific, the delivery of pigments has to be put in order, there must be an increase in the volume of "work in process," which signifies a drop in the "rate of turnover" of working capital.

[Question] A large drop?

[Answer] Judge for yourselves. Instead of 150,000 meters of finished products in the warehouse we constantly must have on the order of 600,000-700,000 meters. And then where the goods go from one shop to another there will have to be about 40 million meters of work in process instead of the planned 3 million meters in order to guarantee smooth operation and delivery.

Yet there is another way that is simpler. Just 3 years ago, before the indicator of sales taking into account fulfillment of delivery obligations took effect, we were producing fabrics representing 350 different commodity groups and styles. Now there are 220. We have reduced the assortment just in order to fulfill the delivery plan reliably. The customer, of course, stands only to lose from this kind of policy. That is why we think that fulfillment of the delivery plan needs to be assigned within a certain interval (with a difference of 1.5-2 percent), rather than strictly 100 percent.

[Question] Especially when since January of last year you have been operating according to the method of residual income or the collective contract. All of your [original reads "our"] income depends directly on product sales. And not symbolic profit, but income proper, wages.

[Answer] Yes, now we ourselves are motivated not to offend the customer.

We have spoiled our suppliers. For example, they can simply get away with failing to deliver us necessary pigments, raw materials, and equipment. Like water off a duck's back. The time has come for strict accountability concerning deliveries. Forfeits alone do not satisfy us. They do not compare to the real losses, which are tenfold or indeed even 100-fold larger.

[Question] So, what if the forfeits were exacted in the amount of the loss?

[Answer] The enterprise as a whole loses when forfeits are paid, but the loss of bonuses is felt personally, and that is why it has a stronger effect.

[Question] Nor, you will agree, does this fit very well with full cost accounting and the collective contract.

[Answer] Indeed, it seems like double punishment....

[Question] Exactly. And not just double, but more than that, violating the logic of cost accounting, isn't that so?

[Answer] I cannot agree with you. For example, we have 300 consignees. We can completely satisfy the requests of 299 of them and receive a rather substantial sum for that. So substantial that the material penalties which would be exacted from us from the 300th consignee, who

is dissatisfied, would be almost imperceptible for us, although his losses because of us would be serious. At present the system is set up so that all must unfailingly be satisfied.

[Question] Judging by the general statistics, it still does not even out.... Here is what confuses me. You are now insisting on an absolutely rigid system. But a few minutes ago you were talking about some allowance, since it was impossible to fulfill all the specifications. Does this mean that you want "rigidity" only for your suppliers, or do we have here a more serious contradiction?

[Answer] Yes, there is a contradiction.... That is really the way it has to be done. To define a small allowance for each of our 300 consignees, an allowance such that if he should in fact incur losses, they would be negligible.

[Question] And who is to determine whether the losses are substantial or not?

[Answer] The victims themselves. For example, we can speak with fair accuracy about what troubles with deliveries have cost us for every type of raw material or equipment. And everyone will be able to do that.

[Question] But in practice you do not tell anyone the truth, right?

[Answer] Perhaps....

[Question] And then this is an altogether different pattern of relations. It turns out that the consumer is evaluating the supplier's performance, while at the same time the presence of the delivery indicator presupposes a third party to record it. An arbitrator whom everyone tries to deceive.

[Answer] I agree with you. There will be enough economic levers in the hands of the enterprises themselves for exerting pressure for contract discipline. But only under one very important condition. All the country's enterprises need to operate according to the second model of cost accounting, according to the method of the collective contract and residual gross income. And not according to the first model, which, while it orients the collective solely toward profit, guarantees the collective wages regardless of the most important results of its activity. We feel that the second model is considerably more progressive and effective than the first, since it compels enterprises to "earn their own living."

If all worked under the same economic conditions, then there would be no need for an additional stimulator such as the 100-percent fulfillment of delivery obligations. Now even those enterprises which operate according to the second model are not given to fantasy, for example, in expanding the assortment and developing new models, since nonfulfillment of even slight obligations results in large material losses. It is in fact better to operate in the old way and not show particular initiative. But as

soon as the levers are in the hands of the consumers, and these are moreover economic levers, effective ones, there will be a greater interest in the effort. After all, no one is as interested in our creative approach to what we do as the garment industry. The dictate must come from the consumer.

[Question] Dictate or appraisal? You say that you do not manage to fulfill all the specifications. What does this mean: out-and-out short delivery or delivery of what was not agreed to?

[Answer] Substitution, of course. We often ship products even in larger volume than stipulated.

[Question] And the substitute is always something worse?

[Answer] Were that the case, our fines would be far greater than today. Usually when the consignee comes to know the particulars, he does not file claims against us.

[Question] Does it not follow from this that you in general know better than the consumers what fabrics they need?

[Answer] Strange as it may seem, the garment factories appear to be closer to the consumer, but in actuality that is not the case. First of all, we have broader horizons. If only in the geographic sense. Second, by contrast with the highly general requests of consumers, our proposals are always concrete.

[Question] Why not a radical solution to the problem then? Abroad firms are quite common which sew clothing from their own fabrics. What is your attitude toward that?

[Answer] Even the largest garment enterprise buys no more than 1 million meters of fabric from us. We produce 22.5 million meters a year. Imagine the kind of firm we would have to have to process it all....

[Question] But only a pilot operation for advertising purposes, to study and expand the market?

[Answer] We are making a different kind of effort in that direction. We have concluded contracts on collaboration with garment enterprises. They make suits from experimental lots of fabrics and report to us on the demand for them. In addition, we have communications so as to obtain information from stores scattered over the entire country.

[Question] Which still means that you would be proposing the commodity, rather than the consumers dictating to you. Their task is more modest: to test your product and evaluate your performance in economic terms. Have I understood you correctly?

[Answer] I think so. But this is not a dictate from the producer, but collaboration between two parties—the producer and consumer, and I think that this is the form of mutual relations that affords the greatest results.

These are the responses of Anatoliy Nikolayevich Bionchik, director of the Minsk Production Garment Association "Komsomolka."

[Question] Anatoliy Nikolayevich, your enterprise has a rather constant reputation as having been "chosen by destiny," as one to whom everything comes easy. If it is no secret, how have you managed to achieve stable high indicators over so many years? This obviously has a direct bearing on the topic of our conversation today—deliveries.

[Answer] We have long been concerned with the problem of unswerving performance of contracts. That is why the advent of the new success indicator in the context of the large-scale experiment—the volume of sales taking into account fulfillment of delivery obligations—did not catch us unawares. At "Komsomolka" an efficient delivery system was altogether worked out in practice back during the last 5-year planning period.

The association consists of two enterprises with a total volume of output of 90 million rubles. The youth garment factory manufactures children's underclothing, which is sold entirely in Belorussia. The main enterprise specializes in corsetry, 38 percent of which is shipped outside the republic.

At a time when the main thing is to fulfill delivery obligations, our policy is determined by three most important factors. First—the even pace of production from week to week and from day to day; every article must reach the warehouse and be shipped on time. Second—precision in management. We have probably gone further in this direction than in all the others. We have introduced the network structure of management [blochno-tselevaya], which has been having a favorable effect on fulfillment of the delivery plan, above all because of the system that has been worked out for putting new models into production. The third is the work with trading partners, which in turn has two directions: with suppliers and with consumers. At the present time we are now able to motivate both of them economically by virtue of the income from selling products bearing the index "N." For example, to give textile people an incentive to develop a fabric with the pattern or structure we need, and the store for selling our products effectively. The result is a chain of motivated trading partners. For example, the Baranovichi Cotton Combine, ourselves, and the "Belarus" Department Store.

[Question] You distribute a portion of your income among them in a certain proportion?

[Answer] Quite right. Last year we credited about 30,000 rubles to those we do business with as an incentive.

We have gone further in relations with the trade sector by changing even the organizational aspect of relations. Whereas in the sale of corsetry we have an altogether traditional procedure: a fair is held twice a year at which everything is written down in specifications to the last detail half a year in advance, while in sales of children's products from Molodechno our scheme might be called experimental. We display at the fairs a collection meant to serve only as a guide, and we conclude the specifications only for overall amounts under 12 consolidated assortment headings. Then we get together with trade organizations to agree on the schedule for producing specific models by type, color scheme, and so on for each quarter. This results in a more flexible system in which the consumer, i.e., the trade sector, is able to correct us promptly depending on the situation on the market. What is more, the terms of the contract grant it the right to send products back to us which have not sold within a time agreed on in advance and to demand that they be replaced with those that are selling. To be sure, they rarely send products back to us and then in small amounts; for example, only 3,000 pieces last year. But the principle itself is important.

That kind of system of relations does not allow us to get lax. To be specific, every year we update 86 percent or more of the assortment of dresses produced. This moreover applies only to the styles introduced. Far more of them are developed so that the trade sector has something to choose from.

We have also seen an increase in the number of direct long-term contracts with trade organizations (this year there are already 125 of them), which also helps to establish closer contacts. In the manufacturer-outlet sections of stores our craftsmen regularly work alongside store clerks; the "fresh" information they obtain in this way is immediately discussed in the enterprise's styling group, and if possible corrections are made in the production program.

[Question] Can that always be done?

[Answer] On the run as it were—not always. There are no problems with those styles which we develop ourselves. But then there is what we receive from the republic Style Center....

[Question] You feel that the centralization of styling which was carried out at some time in the republic was a mistake?

[Answer] Perhaps this was done correctly in terms of theory. And with respect to methods it really is worthwhile. But from the standpoint of flexible reaction to market conditions it is the enterprise which is first to develop products itself, to manufacture and deliver them that wins out.

And the main thing is still production. Efficient and without interruption. By introducing the network structure of management we eliminated 37 slots for engineers, and the resulting system was more viable and effective. Six blocs have been created: technical development and engineering support of production, resource supply, quality inspection, the economic bloc, personnel support (a completely new subdivision), and the bloc representing construction and housekeeping services. Duplication has been eliminated and functions have been spelled out unambiguously. For example, the first bloc, which is the service for expanding and updating the assortment and for technological preparation of production, includes a department for preparation of styles for production and for organization of their production. Note carefully: both preparation and application. In this way we achieve internal consistency between production plans and their technical support.

At the present time all of this relies on a well-thought-out system of incentives which it became possible to develop thanks to full cost accounting. Thanks to this comprehensive policy, not a single claim was filed against us for short delivery during the entire 11th FYP and the first years of the 12th.

[Question] Perhaps it is easier for you to fulfill delivery obligations because of what you called the experimental scheme of relations with the trade sector? After all, you do not have specifications as such, at least for children's articles. And that means that the problems with deliveries is simpler.

[Answer] No, we do not have a specification. To be sure, consolidated lists by group headings of the assortment. But after the fairs we demonstrate to the trade sector all the styles and models and essentially assume the same obligations related to deliveries as other enterprises do.

In that case, the purpose of your experiment is unclear. It turns out that along with all those rights which have now been granted to the trade sector, you have simply added new ones—choosing styles and immediately before quarterly deliveries begin and the returning of unsold articles without requiring anything at all in exchange. What is the trade sector obligated to do in your scheme?

[Answer] To point us in the right direction toward the styles and models the public needs.

[Question] And if its orientation is incorrect?

[Answer] Then we both lose, but we immediately correct the situation.

[Question] You lose and you correct it, that is clear. What the trade sector loses is not clear.

[Answer] It does not lose anything materially. But to tell the truth there have not been very many occasions for that. After all, we have very close contacts even before

the fairs. Round-table discussions in which the assortment we propose is examined from every angle have become traditional. That is why we do not make many mistakes at fairs. What is more, we, as I have already said, award bonuses to the trade sector for good performance. And consequently, we follow up to see that it really is good. With customer service at a high level.

[Question] And your rights? Do they correspond to those obligations which you have voluntarily taken upon yourselves? After all, when it comes down to it, by agreeing to take back all products which have not sold within a period of time, you are the embodiment of the dream we have all had for a long time: the manufacturer's responsibility not for the provisional "sale" of a commodity to go to someone's warehouse, but for the final sale in stores. But as soon as that is the way, the rule that comes into play is that whoever takes the responsibility also makes the decision. And after concluding a contract incorporating consolidated specifications, you still agree with the trade sector on schedules for production and delivery of specific styles and models, granting it the last word. It evaluates and chooses your styles and models.

[Answer] Yes, and does so quite actively....

[Question] So it turns out that you are not making the decision. You are only expected to take responsibility when a mistake occurs.

[Answer] After all, it is we who must serve them. That is the way the task is set, and it seems to be correct. By communicating constantly with the customer, the trade sector must report to us his needs and inform us about his taste.

[Question] But do they report? Why do we feel that a merchandise expert at a fair has a better understanding of cuts and models and color schemes than a stylist? The merchandise expert is really somewhat closer to the customers. But at the same time he is dealing with today's products as well as yesterday's. How is the future to be judged from them? But he does judge and does dictate his requirements. This is true not only of him, but of all styling groups [khudsovery], both ordinary and final. Why are they needed when we have cost accounting? Doesn't all this diminish the intended responsibility of the producer? And doesn't it kill his desire to search and to create?

[Answer] You are proposing that we depart from the established relations and grant the right of choosing the specific assortment to us the suppliers? Well, it is interesting. But to do that enterprises must themselves know the requirement and the demand. And how am I, for example, going to know that when the association, as it does at present, has 200 trading partners, each of which has his own specific situation? Let us suppose that they also do not know very much about what they need for the

customers. But they still know it better than I do. Yet tomorrow I have to know everything about them all. Moreover, not only in Belorussia. It would be difficult....

[Question] In many countries that is exactly how it is done—the producer shapes the market. Often, to be sure, joining forces with the trade sector for that purpose.

[Answer] That is exactly it: joining forces. And not only with the trade sector. I recently visited Czechoslovakia. There the head garment enterprise has its own textile and knitwear factories, a special scientific subdivision concerning itself with the distant future. It also has its own outlets. It sells as much as half of its output through them. The Fashion Institute, or more precisely, the Institute for the Culture of Clothing, which is located nearby, is also helpful.

But what do we possess? A single outlet, and even that is still under construction. The Institute of Demand—even talking about its creation is silly at this point. Four hundred highly paid personnel (not counting those who work in the branches) sending me a catalogue for 1988 based on data for...1986. Very "valuable" information. And we cannot even request anything else from them, since they are departmentally under the trade sector. The Style and Model Center would seem to be ours, but it is not very useful either. They make 20-30 models, and 2 or 3 get to us. One wonders what they were after? A republic computer center for light industry? It would be a worthwhile organization if it did not concern itself solely with reporting.

It is amusing that even the standards that apply to the consumption of our product are almost "picked out of the air." The anthropological data date back some 15 years. Women have presumably changed in that time....

[Question] The picture really is unattractive. Consumer demand seems to be "in no-man's-land." But after all, this should not continue forever. And then the question arises: What direction to move in? To atomize rights and capabilities among partners as in the past or to concentrate them with the one who really needs them?

[Answer] There is no doubt that concentration. I am referring specifically to us producers, which means creating a unified scientific-production association with powerful data processing equipment, catalogues, prospectuses, long-range development projects, and design departments. Then truly all our advisers and teachers will be superfluous. We ourselves would work out the assortment on our own and would be responsible for its final sale. Our experiment will have a logical conclusion: whoever is responsible will make the decision. But let the trade sector take our products on commission, marking them down at our expense if they do not sell. Under full cost accounting that would be a stronger incentive than even sending the products back.

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Economist Cites Ways to Curb Trade Deficit

Moscow NEDELYA in Russian No 5, 1-7 Feb 88 pp 4-5

[Article by Professor A. V. Orlov, doctor of economic sciences and director of the All-Union Scientific Research Institute of Market Conditions and Demand: "The Ebb and Flow of Shortages"; first paragraph is editorial staff introduction]

[Text] We have invited A. V. Orlov, doctor of economic sciences and director of the All-Union Scientific Research Institute of Market Conditions and Demand, to share his opinions and observations on a problem that concerns everyone: why do we continually have a shortage of one product or another? "All right," Andrey Vladimirovich said, "but since scarcity is a phenomenon of many aspects, I will dwell on just one of them—the commercial aspect."

Oh, this scarcity! And who has not attempted to correct it! Trade workers at all levels and managers of individual departments and entire sectors have been rushing as if to a gunport to cover one breach or another on the store counters. Economists and sociologists have written out the most correct formulas to remedy this disaster. Satirists have been hurling shafts at one group, then another group, then others. But it doesn't affect the shortage! Like a peatbog fire, you put it out in one place and you look to see it flare up in another spot.

But if you rid yourself of the emotion and irritation which naturally are aroused in each one of us when we hear the word "no"—no tights, inexpensive cologne, matches, or buckwheat groats, and it's not enough that there are none time and again—and you begin patiently and closely analyzing the situation, and not the situation at the moment but over several years, you observe certain cycles in the emergence of this "disease," its ebbs and flows, so to speak. I invite you to look a little more closely at these waves of speculative [azhiotazhnyy] demand. Perhaps then we will be able not only to determine their "origin," but we will also see where to place a "dam."

In 1978 and 1979, the unmet demand for synthetic cleaning agents, household soap, thread, needles for sewing machines, tooth powder, toothpaste, and infants' underwear reached its "peak." Then the wave of shortage, "knocked down" by emergency measures, including those involving foreign trade, enveloped tea, coffee, cotton cloth, brassieres, robes, men's shorts, furniture, domestic light bulbs, and individual minor items—hangers, brooms, small utensils and even matches—with new force. And this wave also was knocked down finally. Let us note that each time industry and commerce had to resort to emergency measures, to exert themselves to the

utmost, as they say. But these "extreme efforts" do not last forever, and it is always easier to prevent a fire than to put it out. And it can be prevented. But for this it is not enough just to watch the market and to catch irregularities in regions' supply of one commodity or another in good time while they are still minor, before these irregularities have turned into an avalanche. Warning forecasts are needed in the decision-making system, not cut off from these decisions as they unfortunately are now.

For most of the commodities that have become scarce in different periods, the VNIKS [All-Union Scientific Research Institute of Market Conditions and Demand] has warned about the situation taking shape beforehand—at least a year before the onset of speculative demand. The institute's specialists compiled a forecast for 1987 in 1986, and it was corroborated completely. Only this did not make us particularly happy, you understand; along with the study of the market conditions that had developed, we sent the specialists' recommendations on measures that had to be taken immediately to relieve the severity of the problem to the USSR Ministry of Trade, the Ministry of Foreign Trade, and the USSR Gosplan. They read our materials and set them aside. But we know now that the plan for retail commodity turnover was underfulfilled by 12.6 billion rubles last year. A shortage was created and intensified for such consumer goods as toothpaste, inexpensive lotions and colognes, tights, coffee, tea, certain confectionery, and vegetable oil. In a number of regions in the country, sugar, children's footwear and clothing and footwear for elderly persons became scarce...

As we see, certain commodities are repeated in the list: here it is—a not very pleasant cyclic recurrence of the shortage. Who would ever have expected it?

Let us look at the toothpaste story which is memorable for everyone. After a critical shortage of this commodity in 1979 and bringing all our weight to bear on this shortage, we achieved a kind of abundance. You remember, it was quite recently—literally a year ago—the assortment was most extensive. They were selling domestic toothpastes—children's, peppermint, hygienic, and medicinal (licensed jointly with the FRG). Imported toothpastes to suit any taste were in the stores—from Bulgaria, Finland, the GDR, Syria, and India.

The stocks of 1985 and 1986 began leading to a "commodity phobia," a decrease in orders. The effectiveness of barter operations between our trading organizations and enterprises in socialist countries was disrupted. The irregularities in import deliveries were added to the insufficient amount of toothpaste produced at Gosagroprom [State Agroindustrial Committee] enterprises and the lack of reserve capacities. The trading organizations, lulled by the abundance of toothpaste in the past, did not stock up on tooth powders, elixirs, and other substitutes.

But reduction of alcoholic beverage sales came just in time here, and so-called deformation of consumption began when persons started buying up toothpaste in large quantities, not to use for its intended purpose by any means. And the shortage developed further in accordance with the classical laws: if you could not buy toothpaste for 2 months, after seeing it in the store, it is unlikely that you would take one tube, but you would buy two or three at least. Experience has shown that most often it is five or 10, so that you have some in stock for yourself, and your relatives, and friends...

The country was gripped by the shortage at the end of last year. But after all, warning forecasts were made at the VNIKS as far back as early 1986. We still had time!

And why didn't we make use of it? And can we overcome a shortage in general? The answer to the first question is simple and paradoxical: we didn't have time! In order to always have the time—and this is the answer to the second question—a mechanism of flexible commerce is needed instead of the multiple-level system of coordination that exists.

What is happening now? The VNIKS is warning the USSR Ministry of Trade about the imbalance taking shape between future demand and future supply. The Ministry of Trade is appealing to producers. The latter are turning their pockets inside out: they have done and planned everything that they could, they say, and if the Gosplan and Gossnab make arrangements, allocate funds, and look for the raw material—then certainly! And now the Ministry of Trade and the producers are asking the Gosplan and Gossnab. The latter, in turn, are counting the resources available and weighing reserves to increase capacities, scraping up something, but they see that this is not enough—the shortage is already gaining momentum. It is clear that they cannot cope with their own resources, that they cannot manage without the imports. If any free currency or goods for exchange are available at the present time (we must find out which ones in a hurry!), the problem may be considered resolved. Though more than half a year—plus a month, or two or three—will go by before the commodities arrive in the country, get to distribution points, and then to the stores...

This is why I say: we are poor businessmen! And we will not become good ones unless the system of agreements intended to meet demand in a normal, calm, and planned manner functions in extreme situations as well. Something else is needed here—some regulator [dirizher] who possesses information on the entire country, and above all, one who has the right to take urgent steps efficiently and immediately in emergency situations: in purchases, in commodity exchange with other countries, in price setting, and in regional redistribution of goods. This could be the USSR Ministry of Trade if its powers are extended, and if it is given more authority than other producing sectors when urgent problems have to be resolved.

What could such a distinctive "regulator" do to avoid speculation in toothpaste, let us say? Transfer part of the stock of toothpaste with medicinal properties to pharmacies, to be sold for stomatologists' prescriptions. Temporarily (only for the duration of the crisis!) increase the price of imported toothpastes. Limit sales to a single customer. Finally, concentrate a large stock of the scarce commodity in firm stores, so that the consumer knows that if this item (tights, tea, children's shoes, and so forth) is not available in other stores, it will always be here, and that it is not necessary to get 10 of each item. Incidentally, this is precisely what they did with toothpaste and tooth powder at the "Fantaziya" store in Minsk and the "Sakte" store in Riga, where speculative demand was quickly eliminated. And of course, our "regulator" should have made decisions immediately on additional purchases abroad and commodity exchange operations.

I do not want the reader to get the impression that such an institution for flexible commerce is just placid complacency. Experience such as this exists in the country. Trading enterprises, jointly with commodity producers in Belorussia, Lithuania, Latvia, Estonia, the Ukraine, and individual oblasts in the RSFSR, are vigorously resisting the waves of speculative demand. The paths taken in commerce here are varied, and depend on local conditions. But the incomes of both the store and the producer of goods are increased everywhere by vigorous commercial activity on a mutually beneficial basis. And the basis of the partnership is serious study of the demand.

I will cite just one example—this is how the "Belarus" department store in Minsk operates. It is linked "directly" with 163 suppliers. It has concluded an agreement with the Berdsk Radio Plant (the "Vega" Association), for example. The plant supplies its latest items, sample and initial batches of radio and stereo systems, amplifiers, and tuners, for which an area has been set aside permanently in the store. The plant pays for advertising, firm packaging, and schedules. The department store provides the plant with information on the sales of its products and consumer preferences for the old and new types. If there is a sharp decrease in demand, the store has the right to promptly reduce the price of the plant's product. Sales of the plant's products

have increased by eight times as much since this commercial partnership was begun. This is the real economic and social effectiveness of studying consumer demand; this is by no means just potentially effective, as many persons think.

Another partner of the "Belarus" store is the "Komsomolka" factory, which produces women's accessories. The store has set aside a complete section for it and organized a daily accounting of sales and demand for all the different varieties of its products. The factory responds on a day-to-day basis to every fluctuation in consumer preferences. As a result, sales of items in the firm's section have doubled since it opened.

The department store accommodates 60,000 to 70,000 customers every day, and commodity turnover is up to 150 million rubles. Utilization of commercial floor space, thanks to the direct ties with suppliers, is 1.5 to 2 times more efficient than in other department stores in Minsk, as well as in the country as a whole. Do not think that preferential conditions with respect to resources were provided to the "Belarus" department store for the sake of the experiment. On the contrary, its resources for 1987 were reduced by 4 million rubles, but the plan for commodity turnover was increased by 11 million rubles. This is where increasing commercial resourcefulness proved useful for those in Minsk: additional decentralized purchases, arrangement of new orders by enterprises, and commodity exchange operations with foreign partners, the Polish People's Republic in particular...

And at a time when the country's commerce as a whole did not fulfill the commodity turnover plan for 1987, the "Belarus" department store increased commodity turnover by 1.2 million rubles in just 10 months last year.

So the benefits of flexible commerce are obvious. Isn't it time to shift from individual experiments and admiration of isolated examples to the development of a reliable economic lever capable of regulating rapidly changing market conditions? Only with the aid of such a lever will we be able to triumph over scarcity. Otherwise, who needs our forecasts, warnings and recommendations?

FROM THE EDITORIAL STAFF: It is clear that the reasons for a shortage involve far more than skill or lack of skill in engaging in commerce. We intend to continue studying the problem. We await your letters.

FUELS

UDC 622.276

Petroleum Minister Reports to Collegium on Perestroyka

*Moscow NEFTYANOYE KHOZYAYSTVO in Russian
No 4, Apr 88 pp 3-9*

[Article: "Speed Up the Pace of Perestroyka"]

[Text] The year of the 70th Anniversary of the Great October Socialist Revolution was crucial in the oil industry's work. It recovered 593.4 million tons of crude and gas condensate (5.8 million tons above the task), enabling elimination of the lag that occurred in 1986 and 2.4 million tons of crude and gas condensate to be obtained above the plan for the first two years of the five-year plan. Planned shipments of crude to customers were provided for. The work of drilling-enterprise collectives was improved. They drilled 1 million meters of rock above the plan and turned over an additional 528 wells. Goals for growth of hydrocarbon raw-material reserves were met, new fields were put under development, and capital construction and other production indicators were fulfilled. The rate of increase in industrial production volume was 101.5 percent, and more than 600 million rubles of above-plan profit were obtained. The goals for payments into the State Budget were overfulfilled, the prime production cost of commodity output was reduced by 1.5 percent, and the budget-estimated cost per 1 meter of penetration was cut. The labor productivity of industrial-production personnel rose by 5.9 percent over 1986. All the increase in rock penetration was obtained by increasing labor productivity.

Simultaneously, practical preparatory work was done within the branch to convert oil-industry enterprises and organizations to full economic accountability and self-financing as of 1 January 1988.

An expanded joint session of the USSR Minneftprom [Ministry of Petroleum Industry] Collegium and the Presidium of the Central Committee of the Trade Union of Oil and Gas Industry Workers was dedicated to an analysis of the industry's activity in 1987 and to the problems of ensuring stable operation of enterprises and organizations in an era of radical economic reform.

The report of USSR Ministry of Petroleum Industry V. A. Dinkov concentrated main attention on the problems of increasing the industry's operating efficiency, providing a stable financial situation for its enterprises and organizations, and intensifying overall production of crude.

Having evaluated the positive results of 1987 work, the minister noted that that which was achieved cannot completely satisfy the oilfield workers, especially in connection with the conversion to economic accountability and self-financing.

A number of associations and enterprises did not cope with the main requirement—the task for recovery of crude, and they worked below their potential. The associations Azneft [Association of the Azerbaijan Oil Industry] and Varyeganneftegaz [Varyegansk Oil and Gas Industry Association] lagged seriously, having a shortfall of 3 million tons of crude. The work of Stavropolneftegaz [Stavropol Oil and Gas Industry Association] and Soyuztermneft [All-Union Association for the Thermal Recovery of Crude] deteriorated at the end of the year. The number of brigades that did not cope with the oil-recovery plan grew in 1986.

There were several causes here. The main ones were low production and technological discipline, irrational use of existing capacity, a low level of engineering work, and a lack of confidence in their organizations' potential.

In Varyeganneftegaz a large number of wells had above-standard idle time, and tasks on constructing wells were not fulfilled.

Azneft did not cope with its main tasks, major losses were sustained, and the goal for profit was not reached, lessening its capability for remuneration.

The USSR Minneftprom Collegium required the managers of Varyeganneftegaz and Azneft to analyze earnestly the existing situation and to take active measures for correcting it.

Nor was everything well with well-inventory utilization by Noyabrskneftegaz [Noyabrsk Oil and Gas Industry Association], Turkmenneft [Turkmen Oil Industry Association] and Komineft [Komi Oil Industry Association].

For the industry as a whole the already substantial expenditures for well repair have a tendency to grow.

In this connection, work on providing for the planned rates of increase in the wells' operating MRP [time between workovers] should have a special place in the associations' activity. Komineft, Permneft [Perm Oil Industry Association], Mangyshlakneft [Mangyshlak Oil Industry Association] and Soyuztermneft still have not been coping with this task.

The industry did not fulfill the plan task for exploratory drilling, in which the greatest lags were permitted by Orenburgneft [Orenburg Oil Industry Association], Embaneft [Emba Oil Industry Association] and Azneft.

It is well known that a high accident rate and failures affect the economic indicators of drilling enterprises extremely adversely. Quite a few wells were eliminated

in 1987 for these reasons, and large economic losses were permitted by Glavtyumenneftegaz [Main Administration of the Tyumen Oil and Gas Industry, Krasnodar-neftegaz [Krasnodar Oil and Gas Industry Association], Embanefit and Prikaspiyburneft [Caspian Oil-Well Drilling Association].

The machinebuilding plants, a third of which did not meet contractual commitments for deliveries of output, permitted substantial shortfalls.

During the industry's preparation for conversion to full economic accountability and self-financing, much attention was paid to strengthening the economies of enterprises and putting their financial situation into a healthy state. As a result, it was possible to cut the number of losing enterprises by 60 percent, and pay-computations discipline was improved. At the same time, because of the low quality of output delivered and violation of contractual commitments, nonproductive expenditures in the form of fines, penalties and forfeits were great. Glavtyumenneftegaz, Tatneft, Mangyshlakneft, certain machinebuilding plants of the industry, and trunkline oil-transport enterprises suffered the greatest losses.

Many enterprises and organizations built up reserves in excess of the planned levels, although for the industry as a whole the reserves of realizable commodities and materials were within the norms. Losses were still great from shortages and pilferage and the spoilage of realizable commodities and materials.

The work on economical use of fixed capital is weak, and assets not completely amortized are being written off prematurely, especially within Glavtyumenneftegaz associations. Despite the fact that the magnitude of fixed capital costs greatly influences an organization's financial situation and economics, not all supervisors are examining construction-project designs from the standpoint of zealous and thrifty proprietors, and they permit unjustified increases in budget-estimated construction costs. An analysis of the current formulation of capital construction plans indicates that, because of poor work in determining contractual prices, construction costs for facilities are increased by 10-12 percent on the average.

Losses increase each year from unjustified expenditures on covering losses on the upkeep of housing and municipal services. All this affects the prime cost of commodity output.

Great attention was paid to the question of transforming scientific and engineering progress in the oil industry into the main factor in economic growth. The powerful potential of industry, academic and vuz science has set in motion resolution of the problems of scientific and engineering progress. More funds have been directed toward financing it, of which amount 30.7 percent goes

to the centralized financing of work that is especially important and applicable to the whole branch, and 69.3 percent is sent to the enterprises for the conclusion of direct contracts.

Thus, conversion to economic accountability and self-financing raises considerably the responsibilities of the clients' supervisors and of the supervisors of scientific-research organizations for selecting theses and for attaining high effectiveness of the resources invested in science.

However, no turning point in the acceleration of scientific and technical progress in the industry has been observed.

In 1988 the pace of basic and exploratory research must be built up, and new technologies that will support a rise in formation productivity must be introduced on a large scale. Although in 1987 the goal for oil recovery through the use of modern methods for increasing formation productivity was met, the basic volume of the recovery (83 percent) was provided for by hydrodynamic methods, while new methods (thermal, physical, chemical, microbiological, and so on) are being developed extremely slowly.

The creation of equipment and technologies for increasing well productivity is a vital problem for oil-recovery operations and the industry's science. V. A. Dinkov noted that the ministry's enterprises had adopted measures for acid treatment and bottom-hole cleaning, and that exactingness toward the initial drilling-in of productive formations had been raised. These questions are being given serious attention by Tatneft, Bashneft, Nizhnevartovskneftegaz and other associations, but the positive experience that has been gained is being introduced slowly. For example, Nizhnevartovskneftegaz has conducted broad research on wave-type stimulation at the bottom-hole zone, with which considerable increases in the withdrawal rate of oil wells and in the injectivity of injection wells are obtained. However, the other associations are not showing the proper initiative in introducing this method. Wave-type methods can yield good results not only during well treatment but also during drilling and during preparation and transporting of the crude.

The Main Scientific and Engineering Administration is charged, jointly with the associations, with expanding these operations and ensuring execution of the program for developing wave-type methods that was adopted jointly with the USSR Academy of Sciences.

Reduction of the cost of drilling operations by introducing new technologies and developments is becoming of special importance. The fact is that 42 percent of all the industry's capital investment goes to drilling. With the conversion to economic accountability and self-financing, drilling is being performed through the fund for

developing the production and the science and technology of the enterprise itself. An analysis of the work of drilling enterprises has shown that there are many reserves here.

Productive time during development drilling remains 80 percent of calendar time. The rest is lost through carelessness in supplying materials and equipment, performing various auxiliary operations, and eliminating breakdowns and accidents. Cutting idle time and eliminating accidents by 70 percent alone would allow more than 1 million additional meters of rock to be drilled through.

Penetration per drilling brigade varies. Thus, in 1987, 19 brigades drilled through 100,000 meters, 233 brigades from 50,000 to 80,000 meters, and 1,219 brigades fewer than 30,000 meters per brigade.

Because of this, the experience of the advanced brigades of S. N. Borushilov and V. L. Sidoreyko from Surgut UBR [Drilling Administration] No 2, of O. O. Lysenko from Stavropol'neftegaz, of N. F. Golubov from Prikspiyburneft, of L. A. Nikishkin and P. A. Lebedev from the Mirny UBR, and of others must be studied everywhere.

The NPO Bureniye is charged with concentrating its attention on problems of increasing penetration per drill bit, of running and choosing a rational configuration for drilling tools, and of improving quality in the cleaning of drilling muds and in casing wells. The introduction of more modern inclinometers, automated delivery of the bit to the bottom hole, and the ASU [Automated Control System] Bureniye must be speeded up, and the production of a new class of systems for the automated cleaning of drilling mud must be started. The industry's machinebuilding plants should begin the manufacture of bits with solid-diamond wafers, slotted strainers, and other new types of equipment and should convert to the production of updated types of tongs and tools.

Simultaneously, the quality of logging must be improved, the creation and assimilation of plant capacity for logging equipment must be accelerated, and the program for increasing the capacity of computer centers must be revised, that is the time taken to develop them must be reduced.

In 1988 it is necessary to provide for the wide-scale introduction of highly effective oilfield equipment which is capable of increasing considerably labor productivity and the operating time of wells between workovers. The creation and introduction of highly automated gaslift stations, conclusion of the development of new technologies for joint DNS's-KNS's, and expansion of the work on automation and remote control of oilfield facilities are to be speeded up, and the introduction of new Sputniks is to be speeded up with a view to improving well-flow measurements.

A set of programs was developed with our allied machinebuilding ministries and departments to solve the problem of the most accelerated reequipping of the industry. However, in 1987 many elements of the programs went unfulfilled. Thus, more than 30 experimental models of new equipment and instruments and about 50 types of equipment that had passed acceptance tests were not fabricated or manufactured. The Main Scientific and Engineering Administration is charged, jointly with association managers, with taking timely steps and correcting the situation that has been created.

Radical restructuring of oil-pipeline transport operations continued within the industry in 1987. By introducing the newest scientific and technical achievements and converting to technologies that require little or no manpower and to the new wage system, 14,000 workers were released. Labor productivity grew 21.4 percent in comparison with 1986. This work is to continue in 1988 without any reduction of the pace that has been attained.

The report emphasized specially that USSR Minneftprom has again been charged with working to develop oil and gas fields on the continental shelf. Production and scientific subunits associated with the operation of offshore production facilities have affected the industry's structure. In recent years bases for constructing offshore platforms and structures, as well as modern drilling ships and installations, have been created. However, the technical level and the economics of offshore drilling and recovery require thorough analysis and improvement. Many types of work for developing the shelf area are unprofitable. Energizing the scientific potential and engineering services of enterprises in the area of increasing efficiency in developing shelf zones is required.

The attention of the collegium's participants was called to the necessity for increasing the reliability of the power supply for oilfield facilities.

The use of chemical reactants for protection against corrosion is being expanded slowly. Only 30 percent of the pipelines are yet protected by corrosion inhibitors and about 8 percent by protective coatings. The NPO Soyuzneftepromkhim [All-Union Science and Production Association for the Petrochemical Industry] is charged with increasing the output of new, effective chemical products and, jointly with the associations, with speeding up their introduction at oilfield facilities and in pipeline transport. Glavtyumenneftegaz and the Nizhnevartovskneftegaz and Surgutneftegaz associations, where the rate of pipeline corrosion is especially great, must study the positive experience of the Tatneft and Kuybyshevneft associations. The construction of installations for the internal lining of steel pipe and for enameling and vitrification should be speeded up.

Preservation of the environment is an important problem. In this connection, enterprise managers, aided by scientific-research organizations, must concentrate their efforts on solving problems of making rational use of

casing-head gas and of making complete use of runoff and produced water for PPD [maintaining formation pressure], not allowing such water to be discharged into open bodies of water, and they must begin large-scale work on the burial of sludge residues after drilling and must improve closed circulation systems.

Oil is one of the most capital-intensive industries. Each year new oil-recovery capacity and facilities for the use of casing-head gas, for the transporting of crude and petroleum product, and for social and domestic-amenity purposes are being built each year.

Today 56 percent of industrial and 82 percent of social construction is financed through the enterprises' in-house resources. A substantial share of the profit obtained from production activity is deducted for these purposes.

Questions of effective investment policy upon conversion to economic accountability are becoming of special importance.

However, not all managers are using existing resources economically. There is no deep study of long-range capital construction plans, current plans are formulated in complicated fashion, the pulse of construction operations is disturbed, and facilities are introduced in operation late, because of which the enterprises pay large penalties. The amount of unfinished construction is being reduced slowly, and substantial resources are being frozen.

The managers of some associations and enterprises, causing disruption of the construction program, continue to require an increase in capital-investment volume without analyzing the degree of utilization of the capacity already created. Designs for new facilities, some of which prove to be unneeded and are written off, are ordered without sufficient validation.

The report recommended that more attention be paid to problems of formulating objective contractual prices with contractors and designers, without allowing an increase in construction costs. This is one of the most important aspects of the economic independence of enterprises.

Designs must contain more progressive technological and constructional solutions and use more widely modular construction, buildings completely readied at the factory, and floor installation of technological equipment. The new modular automated compressor gaslift station No 16 at the Samotlor field can be an example. In a comparatively brief period (two years from the start of development of the equipment until introduction) a station was created that exceeds the best foreign models in all parameters.

The industry as a whole carried out the 1987 program for building facilities with in-house forces. At the same time, half of the associations did not cope with the plan. The Orenburgneft, Kuybyshevneft and Permneft associations allowed the greatest delays. Construction organizations of Dagneft [Dagestan Oil Industry Association], Embaneft, Saratovneftegaz, Nizhnevolzhskneft [Nishnevolzhsk Oil Industry Association] and Stavropolneftegaz did not meet the profit plan.

The brigade contract, which covered about 27 percent of the brigades, has been poorly developed in construction.

One of the main prerequisites for ensuring stable oil recovery is the involvement of new reserves in development. During 1985-1987 many new oilfields, including some in West Siberia, were introduced to development. At the same time, the necessity for not allowing a lag in drilling at new fields and in building up oilfield facilities, for injecting water into formations, and for achieving maximum utilization of reserves for introducing fields in the shortest possible periods were pointed out to Glavtyumenneftegaz. The collegium charged the managers of the appropriate associations with intensifying work at the Tengiz and Kumkolskoye fields in Kazakhstan, the Verkhnyaya Chona field in East Siberia and the Field imeni 70-letiya Oktyabr in Arkhangelsk Oblast.

The collegium required that association managers pay greater attention to problems of making rational and economical use of material and equipmental resources. The goal for saving such resources is not being carried out by all enterprises. There are serious deficiencies in the area of raising the role of norms and standards in saving material resources.

V. A. Dinkov called the attention of the session's participants to the necessity for involving all workers in questions of saving resources and for not disregarding their suggestions. It is extremely important to create those economic-accountability conditions under which each worker will be motivated toward zealous use of the resources placed at his disposal. A simple system understandable by all for incentives for saving materials and technical resources should be introduced at each enterprise.

The collegium paid much attention to questions of energizing social policy. In 1987, through the redistribution of capital investment allocated to the industry, a substantial growth in the amount of construction of facilities for social and domestic-services purposes was provided for. The volume of introduction of housing rose 1.2-fold, kindergartens 1.8-fold and hospitals 3.1-fold over 1985. Excellent athletic complexes have been introduced at Nizhnevartovsk and Surgut.

However, despite positive achievements in resolving social questions, the priority for improving housing conditions remains high and the situation in Tyumen Oblast remains most difficult in this area.

All this requires persistent work on fulfillment of the program for social and domestic-amenities construction in 1988, during which more than 2 million m² of housing, kindergartens for 16,800 children, and hospitals for approximately 2,000 beds are to be introduced. With the industry's conversion to economic accountability and self-financing, there is a possibility for each enterprise to earn funds for solving social problems. The collegium obligated enterprise and association managers to verify carefully the condition of social and domestic-services facilities and to ensure fulfillment of the plan for introducing them.

Problems of providing oilfield workers with foodstuffs are of great importance. In 1987 the industry created additionally one sovkhoz and five subsidiary farms, and the area of cultivated land and the number of head of livestock rose, enabling the production of agricultural output per worker to increase.

At the same time, existing reserves and potential for more rapid growth in the production of agricultural output and reduction of its prime production cost still are not being used fully. This work is being done especially unsatisfactorily by Azneft, Udmurtneft [Udmurt Oil Industry Association], Tomskneft [Tomsk Oil Industry Association] and other associations. Worker supply in the Tengiz region requires great improvement.

The attention of the session's participants was drawn to the tasks for expanding the production of consumer goods and the development of spheres of consumer services. In 1987 the production plan for such commodities was fulfilled by the branch. In 1988 the amount of production of these commodities is to be greatly increased and their quality and variety raised.

The extension of consumer services for a charge increased by 38 percent in 1987 over 1986. However, the task was not fulfilled. The goals for Glavtyumenneftegaz and the Kuybyshevneft and Bashneft associations were not completely met.

The work of Tatneft, which overfulfilled its task and almost doubled its extension of consumer services for a charge in comparison with 1986, deserves a high evaluation.

The creation of safe and healthy working conditions occupies one of the central places among social problems. In 1987, 111 million rubles were allocated for these purposes. Realization of an integrated plan for improving working conditions and sanitary and fitness measures enabled more than 23,000 workplaces at which about 60,000 persons are working, including 12,000 women, to be brought into correspondence with the requirements of the norms. But along with this, gross

violations of the work-safety rules and operating requirements, especially in the electrical activity and in transport, were committed within the Nizhnevartovskneftegaz, Yuganskneftegaz [Yugansk Oil and Gas Industry Association], Bashneft, Tatneft, Saratovneftegaz, Krasnodarneftegaz and Permneft associations.

The industry's association and enterprise managers must, in their work, restructure their efforts to create safe working conditions at production facilities and must stiffen surveillance and control over the observance by all workers of the work-safety norms and rules.

The USSR Minnefteprom Collegium paid great attention to personnel matters. The outlines of the democratization process are being manifested increasingly clearly in the work with personnel. The election of supervisors has been actively introduced in work collectives since 1987. More than 2,000 highly qualified workers with initiative have been chosen and put in charge. A reliable reserve of persons for promotion has been established.

In the era of converting to economic accountability, when enterprises have begun to pay for labor resources, rational use thereof is acquiring special importance. There are large reserves here at West Siberia's enterprises, where a large number of workers borrowed temporarily from different parts of the country is maintained.

Conversion of the industry's enterprises to new wage rates and salaries has greatly influenced effectiveness in the use of labor resources.

As a result of organizational measures and certification of workplaces, 102,000 persons have been released, and labor productivity has grown considerably. In so doing, it increased more rapidly than wages did.

Success of the laboring collectives in working under the new conditions required that each worker master economic knowledge and the principles of the organization of economic accountability at the enterprise and in the department and the brigade.

Universal primary economic education aimed at mastering the new planning principles and the economic levers for accelerating scientific and engineering progress, for improving the organization of production and the supplying of materials and equipment, and for introducing advanced domestic and foreign experience is being conducted within the industry. It is recommended that managers of associations, enterprises and organizations create a unified system of production-economics study for workers, reinforced by its highly qualified personnel.

V. A. Dinkov's report told about the steps taken to improve the oil industry's control structure. Further development of the two-tier system for control and a further strengthening of enterprises as the basic production element forms the basis of the new master plan.

In addition to reducing the production losses, the Azneft Association has worked to improve the organizational structure of production management. In the course of improving the management structure, 27 shops and sections, 28 brigades and 52 divisions and services of the management system were eliminated and over 1500 workers were dismissed.

The Salyanyneft and Neftechalaneft, Shirvanneft and Muradkhanlyneft, Azizbekovneft and Ordzhonikidze-neft, imeni 26 Bakinskikh Komissarov and Karadagneft NGDU [oil and gas extraction administration] were also combined. In addition, the Dzharlin and Dzheyranche URB [exploratory drilling association] were converted to a deep exploratory drilling expedition and put under the jurisdiction of the Prikurinskiy URB, and the Kyursanginskaya deep exploratory drilling expedition was created at the Ali-Bayramlin UBR [drilling administration]. Two rig installation offices—Gobustanskaya and Ali-Bayramlin—have been combined. The Azneftedorstroyremont Trust has been eliminated and its subdivisions have gone into the Azneftestroy Trust.

As the result of the NGDU merging, the number of planned-loss enterprises has been reduced from seven to three, and the total losses reduced by 6 million rubles.

Work under the new management conditions requires intensification of the engineering control over the operational fund of wells, skillful use of the reserves available for oil extraction, increased efficiency of secondary and tertiary methods of extraction and operations according to the effect on the borehole area of the wells and other geological-technical measures.

The NGDU imeni 26 Bakinskikh Komissarov has accumulated valuable experience in this matter. Last year, at the oil fields of this administration, 3943 geological-technical measures were carried out, and the total extraction from this was 82,500 tons of additional oil. At the same time, over half of it goes toward geological measures. This is understood. The work done here to seek new geological reserves yields positive results. Last year, for example, at the Bibi-Eybat site, prospecting work at the PK3 level was reactivated. Some wells drilled here went into operation with a deficit of 10-15 tons of oil each.

This year, on the basis of the data obtained, there are plans to drill 6 exploratory and 13 extraction wells.

The collective of this enterprise created a good stockpile of projects for work under the conditions of full cost accounting. For example, the profit from the industrial activity in 1987 was overfulfilled by a factor of 2.4 and the above-plan profit was 1,063,000 rubles. The production cost per ton of oil was reduced. Work under the new management conditions also helped to raise labor productivity by 110.3 percent.

At the NGDU, under the procedures of an experiment, two complete oil-and-gas-extraction brigades were set up and are already working, and here, as practical experience shows, the principles of cost accounting are most fully revealed.

The Azneft Association has worked out new recommendations for labor organization and material incentive in the activity of complete oil-and-gas-extraction brigades, presupposing a qualitatively new approach to the evaluation of the end result of the work of the complete and mixed brigades working on a unified job authorization.

The introduction of intraproduction cost accounting is an important aspect in achieving success and increasing operational profitability under the conditions of self-financing. The economists of the association, in order to apply intraproduction cost accounting in all the shops and brigades, have worked out a provision which they coordinated with the republic sectorial trade union. At present, 85 brigades out of the 95 in the association are working on an advanced form of labor and payment organization.

It should be mentioned that, in connection with the transition to full cost accounting and self-financing, organizational-methodological work has also been undertaken in the association. The enterprises and organizations obtained all the necessary standard methodologies on questions of work under the new conditions of cost accounting, the basic planning-economic indicators, state orders and stable norms for the 12th Five-Year Plan. Universal economic education, in accordance with the educational-methodological program for all levels of workers, was carried out to bring the content and knowledge of the new management forms to the workers and specialists. In the last few months of last year, seminar-conferences of the directors of the enterprises and economic services of the UBR and URB were held.

An extremely important measure for transition to full cost accounting is the introduction of a new system of wages and determination of new rates and salaries for the workers. A central commission was established in the association as early as last year to direct this work. This work, however, is proceeding extremely slowly, which delays the solution of this important problem.

Meanwhile, the first month of work under full cost accounting showed that not all the NGDU are ensuring fulfillment of the assignments set. As before, the collective of the Shirvanneft collective incur large losses. The oil field workers of Kirovneft, where, since the beginning of the year, arrears in the plan have also formed, have been working below their potentials.

Because of this, the Azneft Association must more persistently solve the problems of restructuring the economic mechanism and make maximum use of the existing scientific-technical potential to ensure the profitability of the enterprises under the conditions of cost accounting.

The enterprises of the Kasporneftegazprom All-Union Production Association have begun work under the new economic conditions more assuredly and stably. It must be said that the prerequisites for this here were good. In 1987, 246,000 tons of oil and 400 million cubic meters of gas above the plan were extracted. The planned assignments with respect to the output sold were exceeded by 18 million rubles. The plan for sales in consideration of the contractual obligations for supplies was 100 percent fulfilled. As a result, labor productivity exceeded the planned goal by 5.4 percent.

It is important to note that all the industrial enterprises achieved a 13 million ruble reduction in production cost. All three planned-unprofitable enterprises (the Artemneftegaz and imeni N. Narimanov NGDU and the Chelekenmorneftegazprom Production Association) reduced their losses by the sum of 1.5 million rubles.

Along with this, the serious lagging behind of the MURB from the STS (27.5 million rubles in losses) made it impossible to ensure the planned assignment for profit as a whole for the association. Therefore, the work of this enterprise under the conditions of full cost accounting needs radical restructuring at all levels of production.

For the Kasporneftegazprom All-Union Production Association, last year was a preliminary stage in the transition to full cost accounting and self-financing, in the course of which there was a gradual introduction of such elements of the new system as stable norms for the wage fund, the material incentive fund and the physical resources.

In this same period, the principle of augmenting the role of the five-year plans was realized and the plans for the 12th Five-Year Plan were delivered to the enterprises within the specified periods. The responsibility of the work collectives for the results of the production work and their independence was intensified, as was the role of economic methods of production management.

A permanent work commission, which coordinated, explained and also gave practical help to the work collectives, was created in the All-Union Production Association to prepare for the transition of the enterprises to full cost accounting and self-financing.

Universal economic training to study the new management methods was carried out in the work collectives of the association within the framework of the comprehensive preliminary program.

Another important measure was the work on converting engineering-technical personnel and workers to new salaries and rates. On the whole for the association, 32,000 workers, including 26,000 workers and 6000 engineering-technical personnel and office workers employed in the production sphere, will be converted to the new wage system.

An additional wage fund was specified, in the amount of 20.5 million rubles, which will be covered through the capital of the enterprises. At the same time, as the estimates of economists showed, for the transition enterprises the rise in rates, on the average per worker, will be 39 rubles, or 24.6 percent, and in the salaries of the specialists — 51 rubles, or 25.6 percent. The average wage at these enterprises is increasing respectively by 34 and 59 rubles.

Right now a phase transition of enterprises to the new wage conditions is being implemented at the all-union production association. At the NGDU imeni N. Narimanov, for example, all the shops, numbering 1649 persons, have made the transition, and at the NGDU imeni A.P. Serebrovskiy, the shops and sections, numbering 350 workers, have made the transition. This work is continuing.

In 1987 the all-union production association introduced a number of reforms into the structure of the association. The work done to improve the organizational structure of the management made it possible to release 602 workers with a wage fund of 1,620,000 rubles.

According to the results from this January, the Kasporneftegazprom fulfilled the indicators established by the state order. The planned goal for extraction of oil (with condensate) was fulfilled by 102.3 percent. Some 21,500 tons of oil (with condensate) above the plan were extracted. The increase for the corresponding period of 1987 was 24.0 percent. The planned goal for gas extraction was fulfilled by 103.2 percent, and 31.3 million cubic meters were extracted in addition to the assignment. Commitments for supplies were 100-percent fulfilled.

The overfulfillment of the production plan and the work of the smallest number of people made it possible to ensure fulfillment of the goal for labor productivity by 110.1 percent, and a 21-percent increase over the corresponding period last year was achieved.

The marine oil workers are faced with complex, crucial tasks in 1988. They must extract 10,400,000 tons of oil (with condensate) and 11,320 million cubic meters of gas.

For fulfillment of this goal, it is specified that 339,000 meters be drilled, including 93,000 meters of exploratory drilling.

There is no doubt that the oil workers of Azerbaijan, included in the socialist competition for a worthy greeting of the 19th All-Union Party Conference, will apply all their knowledge, experience and skill to the successful achievement of the tasks set.

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New USSR Petroleum Industry Council Holds First Session

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[Article by G. Topuridze: "On the Democratization Path"]

[Text] Puzzling questions were heard before the opening of the first session of the USSR Petroleum Industry Council: "A council of an enterprise's laboring collective is understandable. But what should a council for an industry decide? What are its functions?"

At first glance the questions are justifiable. But only at first....In June 1987 the CPSU Central Committee and USSR Council of Ministers decree, "Restructuring of the Activity of Ministers and Agencies in the Material Production Sphere Under the New Management Terms," said directly that, with a view to intensifying democratization and to involving representative laboring collectives in the affairs of controlling the branch, and to combining more effectively the principles of undivided authority and collegiality of management, it should be recognized that ministries and agencies must form branch councils as consultative organs. The branch councils, which are under the minister or agency director, can include the directors of leading enterprises, advanced blue-collar workers, representatives of the branch's trade union, and well-known scientists and specialists. Branch councils should hold their sessions at least twice annually and review knotty questions of the branch's economic, scientific, technical and social development, evaluate the results of its operations, and work out recommendations on further increasing production effectiveness within the industry and on disseminating advanced experience.

This is the first session of the branch council. Its chairman, USSR Minister of Petroleum Industry V. A. Dinkov, brought several questions to the council for discussion. Among them were these:

"West Siberia's casing-head gas resources will enable 5-6 billion cubic meters of valuable hydrocarbon raw material to be recovered above the plan by the end of the five-year plan, but the state must grant for this purpose a credit of about 500 million rubles. Let us consider whether this is desirable, bearing in mind that 70 percent of the above-plan profit will remain with our enterprises?..."

"A modern plant for packaging milk that can be stored for up to three months can be acquired from abroad, and it can be built in the south of Tyumen Oblast, thereby solving the problem of supplying the northerners with milk products. Two hundred thousand tons of crude are needed for this purpose...."

"Each year more than a million tons of petroliferous sludge goes to waste. Special mobile installations can extract 200,000-300,000 tons of crude from it. I think that under full economic accountability, such an addition will not hurt anyone and will more than cover the costs...."

Who makes up the industry's council? The size of the journal's page will not allow all 50 to be named, so I will present only certain members. These are Deputy Ministers N. I. Karkhalev and V. Ya. Sokolov, chairman of the trade-union central committee V. T. Sedenko, Secretary of the USSR Minneftprom Party Committee Yu. N. Khmelkov, association general directors V. L. Bogdanov (Surgut), A. K. Mukhametzyanov (Tataria), V. I. Ott (Nizhnevartovsk), B. F. Sandurskiy (Bashkiria) and S. S. Shishlov (Tengiz), VPO [All-Union production association] chiefs K. A. Abasov (Caspromneftegazprom [Caspian Offshore Oil and Gas Production Association]) and A. V. Chernyy (Sakhalinneftegazprom [Sakhalin Oil and Gas Production Association]), drilling foremen Hero of Socialist Labor A. Amanov (Azneft [State Association of the Azerbaijan Petroleum Industry]), N. F. Golubov (Priaspibyburneft [Caspian Oil-Drilling Association]), V. L. Sidoreyko (Surgutneftegaz [Association of the Surgut Oil and Gas Industry]) and I. G. Feklov (Kuybyshevneft [Association of the Kuybyshev Oil Industry]), well-workover foreman M. I. Kudrich (Nizhnevartovskneftegaz [Association of the Nizhnevartovsk Oil and Gas Industry]), oil-and-gas recovery foreman V. P. Gustov (Bashneft [Association of the Bashkir Oil Industry]), oil-and-gas recovery operator L. F. Markova (Komiyeft [Komi Oil Industry Association]) and Nizhnevartovsk GPZ (gas refinery) operator N. A. Naberezhnov, directors of the industry's institutes, and managerial workers of the ministry.

At the first session Deputy Minister and Chief of the Main Economic Administration I. I. Leshchinets gave a report on conversion of the industry's enterprises and organizations to operation under economic accountability and self-financing. Last year the number of lagging collectives in the branch was cut to 40 percent; half as many were planned-loss enterprises, and this year only 18 remain. However, the fact that only a third of the production brigades are working under economic accountability provokes anxiety.

West Siberia's drillers began the year quite well: they had almost 400,000 meters of above-plan penetration to their credit in January. But, as I. V. Gubenko, council member and chief of Glavtyumenneftegaz on Economic Questions, noted, difficulties in financing these operations arose. The council decided that the resources for above-plan work should be sought out by the enterprises themselves. At the same time, said V. A. Dinkov, one must get to the heart of the matter of whether we need 400,000 meters of above-plan drilling if the amounts of uncompleted construction for drilling in West Siberia is growing. For the country needs not mere meters but wells that give crude!

M. I. Ivaniv, chief of the Ivano-Frankovsk Drilling Administration, in addressing the council, emphasized that the system of economic education that exists today does not meet today's requirements. This is why, in his opinion, lower-echelon economic accountability still has not been widely propagated, yet this is the basis of success. Moreover, the UBR chief complained about the lack of computer equipment at the enterprise's disposal. With an annual work volume that exceeds 150 million rubles, the enterprise's economists use primitive calculators, and this hinders the job. On this question, council members came to the conclusion that not all of the industry's enterprises can at present be supplied with modern computers, but there is a possibility of cooperating with other enterprises.

The council recommended that the industry's work on expanding consumer services for a charge, the production of consumer goods, and the organization of cooperatives be expanded. The laboring-collective councils still are acting poorly and, locally, not all managers show initiative.

It is still early to speak about the effectiveness of the industry's council, but the motivation and adherence to principle of the discussion during its first session enables it to be hoped that this democratic organ will serve the cause of progress in the branch.

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ELECTRIC POWER GENERATION

Ensuring Nuclear Power Station Safety

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[Article by V. Antonov, engineer, Moscow Oblast: "Services for the Nuclear Power Station: Or, How to Avoid Accidents"]

[Text] The Chernobyl disaster has taught people a lot. It is probably impossible to find a single person who has not responded in one way or another to that misfortune. But what was done at the Energomash Energy Machine-Building Plant in Chekhov will not be encountered frequently at our country's enterprises. The people there decided to assume constant monitoring not only of the manufacturing of their own output, but also its subsequent "life," that is, its operation and repair. First at the Chernobyl nuclear power station, and then at all the other nuclear power stations in the country.

"Do you think that people voluntarily took on this burden? I don't think so. Something is not quite right. Either they were forced to do so from above, or you didn't understand something," my comrade said doubtfully when he heard that piece of news.

I readdress that doubt to Energomash director G. Mostovoy.

"Your comrade is simultaneously both right and wrong," Georgiy Ivanovich replies. "No one from above required us to do this, although before undertaking such a big job, obviously, we did confer with the ministry. But it was not the management that forced us. Instead, it was life itself."

And then he told me a recent episode that is extremely typical in this regard. A warning message had come in from the Kalinin Nuclear Power Station: the gaskets on two of the eight main steam valves had refused "to execute their duties." It was partially an emergency situation. What had to be done? Should the power unit be stopped? The plant immediately sent out a brigade of specialists consisting of six persons headed by a designer and chief engineer, who, for two weeks, literally spent their days and nights at the Kalinin Nuclear Power Station until the threat of a breakdown was removed.

And yet it could have been quite different if those gaskets had been under the constant observation of highly qualified specialists from the very beginning. And we mean specialists not simply for the nuclear equipment, but specifically for the valve fittings. But specialists like that do not exist at the stations, if only because they are given no instruction there, anywhere in the country. Specialists like this are developed only by practice, that is, under the conditions of a specialized plant.

"But how does that affect you? Because you have your own production program, and, as I have been convinced, it is an extremely strenuous one," I continued asking the director.

"Well, you're right, but on the basis of the practice that has become established — and I consider it to be natural — in all the complicated situations, and especially the emergency ones, it is still necessary for our specialists to make an analysis," G. Mostovoy explains.

Obviously, the foundation of the initiative is now understandable. Although there is still one aspect that remains unclear: why was it born only today, instead of yesterday or even the day before yesterday? Let us try to answer that question.

The Energomash Plant is the country's only specialized enterprise of its kind, that produces power fittings with high and superhigh steam parameters for power units at nuclear and thermal electric power stations. Hence it is easy to understand the plant's importance.

Actually, how many boilers are there at the power unit? Everyone knows that there is just one. And how many turbines? Two, or sometimes one. Like it or not, universal attention is concentrated at individual pieces of

one-of-a-kind equipment. But the number of fittings at the same unit is as large as 2000! Just try keeping an eye not only a single one, but on 2000!

Therefore the extra-class specialists, that is, the machine-builders themselves, the people who manufacture the fittings, have assumed the responsibility for them. In essence, in addition to the production, they have assumed the functions of operating personnel also.

"First of all, we subdivided all the country's operating nuclear power stations into three zones: northern, southern, and central," Ye. Dzedzichuk, the plant's deputy director for services, tells us. "In each zone we have specified the lead station where we are creating, as it were, a base point. From that station, either on the basis of the schedule or as required, we shall inspect our equipment and carry out preventive maintenance and repair at the other stations in the zone."

"But can't you tell me in more concrete terms how you will improve the condition of your articles at the operating stations? Because they were also repaired, and were also under someone's monitoring, previously, weren't they?"

"That's precisely what I mean: they were 'under someone's monitoring.' Statistics indicates that the quality of our equipment has been rising. Nevertheless the breakdowns at the electric stations as a result of the fittings have not been decreasing. And frequently it is a consequence of poor, inefficient monitoring and maintenance of those fittings," Yevgeniy Viktorovich replies. "It is sometimes necessary to expend tremendous efforts to locate the real causes of the emergency. But it is not even a matter of the additional efforts, but the fact that frequently we lose the details that reveal the true situation that led to the accident, details that extremely valuable to us. Completely irreplaceable experience that could serve as a very valuable support for further improving the quality of the output when it is being manufactured."

And so what appears at first glance to be a local problem of services expands before our very eyes, taking on increasingly important and increasingly visible aspects. Because in this instance the services are nothing else but a continuation of the fight for the quality of the output being produced, a process that was begun in the plant shops at the work stations. And now that process has been continued outside the plant gate — in the "big world." Not a single gram of experience is lost, it is returned to the plant, where it forces people to serve the very same task: improve quality. In this specific instance, the coalescence of plant science and the direct practice at the stations. The resolution of the very task that the party and the government set as the very center of our economy.

And this is when there also exists a large number of other positive situations in the services sphere. For example, a part has gone out of commission. How would a dilettante resolve its future fate? Very simply: write it off and order a new one. The expenses will not be paid out of his own pocket...

That is not what would be done by the true owners who made that output, the people who labored to give birth to it and who have lavished love on it. They can analyze everything very quickly, as a mother does with her child. Whenever possible, they can correct things on the spot. Other things can be sent home — back to the plant — efficiently, without any delay, for "treatment." And the only things that will be thrown on the trash heap — and there is absolutely no doubt about this — are the ones in which God himself cannot breathe new life.

Consequently, the factors that become the most immediate results of the services are the increase in the working efficiency of the equipment, its reliability in operation, the increase in its rate of intactness, and the improvement of all the qualitative indicators. Not to mention the more "comfortable conditions" of the repair operations that have become the Achilles heel of the operating personnel.

However, let us return to practice. And specifically to the service base point created by the Chekhov energy machine-builders and that is already in operation at the South Ukrainian Nuclear Electric Station. It employs 17 persons, of whom six are engineers.

At present, since there are no matters that are more urgent, they are studying in a planned procedure (and, where necessary, repairing) the Chekhov equipment at two units at that station. They have people, space, and special gear. But still there is a lot that they do not have. This cannot fail to alarm the interested parties, primarily the plan and the stations serviced by it. And they are indeed alarmed.

For example, there is a lack of time-responsive communication, transportation, certain equipment, etc. It will be necessary to resolve the personnel question and the financing system. Limits on the amount of labor for providing services at the plant, naturally, have not been stipulated, since this is a newly created organizational subdivision that was not planned in the enterprise structure. Nevertheless Energomash in Chekhov is seeking the opportunity for developing that service.

"Yes, but at such time their own production assignments, which, as was already stated, are extremely strenuous, cannot fail to suffer. Even if in a planned procedure, rather than in an emergency procedure, the people at the plant assign their specialists to provide the services — I can hear the voice of the experienced reader."

Without a doubt, plant production would suffer if there were not a single "but." The collectives at the stations have taken such an understanding attitude to the Chekhov initiative that, to the extent of their work force and their capabilities, they are compensating for their expenditures: they send two or three of their workers at a time to work for a definite period of time at Energomash. Thus they help not only the plant people, but also themselves: the workers who have come back from those work assignments have a much better knowledge of the valve fittings than they did before. For the nuclear station this is a tremendous plus.

The providing of services is an idea that has come to us not just for a certain period of time, but forever. It is no accident that it has been mentioned frequently in directive documents. In no way should it be allowed not only to perish, but also to come to a standstill. And, unfortunately, it has not been insured against the latter, especially at the very beginning.

Thus, the Chekhov energy machine-builders have supported by their actions the course aimed at the acceleration and intensification of production. It is necessary as rapidly as possible and along all directions to come to the aid of the service organization that has begun for the nuclear electric power stations not only for their own Mintyazenergomash [Ministry of Machine-Building for Heavy Industry and the Power Industry], but for all the interested parties, primarily Gosstab, USSR Minatome-nergo [Ministry of Nuclear Energy], and USSR Mine-nergo [Ministry of Energy]. Especially since the Chekhov specialists seriously intend, within the near future, to extend the providing of services for their output not only at nuclear power stations, but also at thermal power stations.

S075

Technical Power Engineering Trends Outlined
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[Article by L.G. Mamikonyants, doctor of Technical Sciences, All-Union Scientific Research Institute of Electric Power Engineering: "The Basic Directions of Scientific-Technical Progress in Electric Power Engineering"]

[Text] At the present time the Soviet Union has a highly-developed, technically advanced, with respect to the basic indicators, electric power engineering economy, ensuring centralized electric and heat supply for practically the entire national economy and everyday life of the country.

Some 11 unified power systems (OES) have been set up, 9 of which are included in the USSR Unified Power System (YeES). The formation of the USSR YeEs and

the considerable remoteness of regions, with respect to inexpensive energy resources, from the centers of electric power consumption have led to intensive development of the electric networks.

The extent (in single-circuit calculation) of electrical networks with a voltage of 110 kV and over at the end of 1987 exceeded 583,000 kilometers, including a network with a voltage of 500 kV that extended for almost 35,000 kilometers and of 750 kV—over 4000 kilometers. The first section of a direct current electric power transmission line with a rated voltage of 1150 kV was set up; a direct current overhead line with a rated voltage of 1500 kV (q750 kV) is under construction.

To control the operation of the USSR YeEs and ensure its sufficiently reliable operation, a modern, highly developed multilevel automated dispatcher control (ASDU), headed by the TsDU [Central Dispatcher Control of the Unified Power System of the Socialist Countries] of the USSR YeES, and including the Unified Dispatcher System (ODU) and numerous dispatcher points of power systems and their enterprises. The work of this entire system is based on widescale use of modern computer equipment, communications, telemechanics, relay protection and automation devices.

The domestic electrical power complex is at an advanced world level with respect to its basic indicators and for some indicators even outstrips it. This complex, however, also has serious shortcomings and lags behind the world technology level with respect to some indicators. Not yet everything has been and is being done for an optimum solution to the main problem—reliable and economical electric supply for the national economy.

Because of this, it is necessary to dwell on certain basic problems and directions in scientific-technical progress (NTP) in the electrical section of electric power engineering.

The basic directions for the development and improvement of the structure of the USSR YeES [Unified Power System]. After the inclusion of the unified power systems of Central Asia and the Far East in the USSR YeES, there remain problems of territorial expansion of the YeES through connecting up the relatively low power systems and power regions, existing and being formed in the north and northeast of the country. The vast territory of this zone not encompassed by YeES networks constitutes over one-third of the country's territory and is characterized by extreme climatic conditions, focal distribution of power and heat consumers with considerably less concentration of them than in the rest of the YeES section, etc. Forming a power system in this territory poses a number of specific problems with respect to selecting the optimal structure of the local power sources, type of current and parameters of the elements of its own electrical network and its connection with the YeES.

The problem of accelerated construction of AES, primarily in the European section of the USSR, remains. Here, judging by preceding experience, the rates of introducing generating capacities in the west and east of the country, as well as the rates of developing fuel-energy complexes in the east, the need for a reversing exchange of power, with its primary overcurrents from west to east, will remain for a long time. This means that the alternating and direct current lines being constructed, of 1150 and 1500 kV respectively, should be reversing, i.e., system-forming, and not transporting.

The role of hydroelectric power in the development of the USSR YeES is primarily determined by the development of the Angaro-Yenisey cascade of GES and the construction of GAES in the European part of the USSR. The latter is becoming particularly important to ensure the shunting ability of YeES under the conditions of the primary construction of AES and low-shunting capacities for TES based on coal fuel. GAES alone, however, are not enough to solve the problem of YeES shunting ability.

Other ways of solving the problem are: expanding the shunting ability of existing electric power plants using organic fuel (at the same time, both TES and TETs) with their modernization, introduction of new TES capacities primarily with a special shunting design; utmost expansion and acceleration of putting GTU [gas turbine units] into operation; evening out the schedules of the load through building accumulator units (electromagnetic superconductor and capacitance can be included) and developing rates for electric power that will be economically advantageous for the consumer-regulators. Along with this, taking into consideration experience in France, England and certain other countries, urgent work should be done to ensure the possibility and expediency of drawing AES into taking part in covering the variable part of the schedules for the power pool load.

The main tasks of developing the basic YeES network are: completing the formation of a 750 kV ring network in the European part of the USSR with nuclear electric power plants and interstate links connected up to it; development of 1150 kV main lines, Siberia-Kazakhstan-Urals-Middle Volga-Center, to which AES and the electric power plants of the Ekibastuz and Kansk-Achinsk fuel-energy complexes will be connected.

Under the conditions of raising the requirements for the throughput capacity of the basic YeES network along the east-west direction, the role of the direct current electric power transmission shunting line from Ekibastuz to Tambov is increasing. Construction, on this overhead line, of an intermediate substation in the U-rals and extending it to Siberia is useful.

Electrical links, using direct current in the form of an overhead line or fuse may be technically expedient components of the USSR YeES, particularly to exchange power with the pools of other countries; in combination

with the alternating current links, they increase the controllability of the electric power pools under normal and emergency conditions, and accordingly contribute to increasing the reliability of electric supply for the consumers. At the same time, it should be emphasized that the specific places and conditions for combining links using alternating and direct current should be given careful economic substantiation in each case.

Along with the direct current fuses, the USSR YeES should also use, where it is technically and economically expedient, flexible connections based on electromechanical frequency transformers, using asynchronized synchronous machines (AS EMPCh) and combinations of the former and latter types of links. Aggregates of the AS EMPCh type, judging by foreign experience, should also be useful to link the feed network of an electric power system with the load when it is important to prevent the transmission of load kicks from the former to the latter and vice-versa.

Important, although not decisive, new directions in changing the structure of the generating capacities are studies and plans being made on constructing non-traditional sources of electric power: wind, tide, geothermal, solar and magnetohydrodynamic.

Overhead lines for electric power transmission. In the sphere of alternating current, in addition to the development and improvement of 1150 kV lines noted, further work must be done on increasing the economy and reliability of the work of overhead lines of all degrees of lower voltage.

Basic directions in solving these problems are: expanding the production and use of polymer synthetic insulating materials both for basic insulation of the line conductors and for structural elements; developing (using these materials) compact overhead lines with increased throughput capacity; widescale use of wires and cables made of aluminum alloys and bimetals with increased strength; improving the systems and devices for protection against overvoltages, and reducing, on this basis, the requirements for the insulation levels of the overhead lines themselves and the substations and electrical equipment connected with them; improvement and widescale introduction of measures to combat vibrations and line-wire dancing, to prevent ice glazing, etc.

With a view to the optimal solution of the problem of losses in the networks, particularly in overhead lines, following the experience of developed foreign countries, the research, performed by a number of organizations in our country, on optimum values of current density in the wires must be accelerated.

The power electrical equipment of electric power plants and networks. The basis for development of the most powerful TES, at present and in the future, lies in turbogenerators with an 800 MW power, and by the year

2000 can be 1000-1200 MW. For AES there will probably be an increase in the unit capacity of a quadrupole turbogenerator up to 1500-1600 MW.

In the next few years, just as now, KES and TETs will mainly introduce bipolar turbogenerators of a single unified series, with a power of from 63 to 800 MW with hydrogen-water cooling. There is still important work to be done on development for operating this series of turbogenerators and, particularly, for their use in modernized KES and TETs instead of old-type turbogenerators, which have exhausted their resources and are subject to replacement.

In the sphere of turbogenerators, the long-term task is to do away with the practice of filling them with hydrogen and using fuel oils for their lubrication and packings; this will ensure that they are explosion-proof and will reduce to a minimum the possibility of fires occurring. Promising in this respect are turbogenerators with full water cooling; some generators of this type, with a power of 60 and 800 MW have been in operation since 1970 and 1980, respectively.

To reduce expenditures to develop and simplify operation, it is expedient to create a series of turbogenerators with a power of up to 165-200 MW, fully air-cooled. They will be particularly convenient for gas turbine units operating for just a few hours, with frequent start-ups and shut-downs.

Searches for other ways of creating explosion-proof and low fire hazard turbogenerators are also possible; specifically, filling the stator with a non-inflammable insulating liquid.

The research and development carried out in the USSR showed the possibility of a substantial improvement in the operational characteristics of turbogenerators, particularly in relation to the stability and use of reactive power, by making their rotors with longitudinal-transverse excitation; these generators are called asynchronous. An experimental-industrial model of this turbogenerator with a power of 2000 MW (ASTG-200) has been in operation since the end of 1985. Several more such machines are slated for manufacture. Research and development are also being carried out on creating asynchronous turbogenerators with a power of 800-1000 MW.

A 1000 MW hydrogenerator should be developed for the Turukhan GES.

Reversible engine-generators with a power of 400-600 MW and thyristor starting units for them should be created and developed for future GAES.

GES in Siberia need horizontal capsule hydraulic units with 50 MW power. Fully automated units should be developed for small GES.

Very important in the field of reactive power compensation devices is the production, planned in the 12th Five-Year Plan, of the first powerful synchronous condenser of a new type (SKP) for 1150 kV electric power transmission lines. This condenser has two unequal excitation windings on the rotor: the main, powerful one for the longitudinal axle and the auxiliary, low-power one for the transverse axle. These condensers are substantially better than ordinary ones with respect to stability and consumption of reactive power from the network. Manufacture of several more such synchronous condensers is slated.

The unjustified lagging behind of domestic equipment with respect to developments, series production and practical use on electric power transmission lines and in the electrical networks of all voltages of regulated static condensers (STK) for reactive power should be eliminated. They are greatly needed, not only to increase the controllability of overhead lines, but also to reduce expenditures to transport electric power in the networks and to raise the quality of the electric power.

It is very important to solve the problem of a radical rise in the technical level of the commutation equipment for all classes of rated voltages. Commutation equipment and complete distributing units with SF₆ insulation should be used primarily in networks with a voltage of 35 kV and over, and in networks of 6-10 kV—vacuum switches.

We need instrument-generator complexes with power switches, built into the screened bus ducts of turbogenerators (up to 24 kV, 30 Amp, current interruption 250 kV), as well as generator voltage switches for large GES with increased life (up to 3000 commutation cycles a year).

Commutation equipment is needed for work under the conditions of the North and Siberia (temperature to -45 degrees).

Further measures to increase the reliability of power transformers and reactors, particularly the dynamic stability, are important, as are those to reduce losses through the use of steel with fewer specific losses than that presently used.

The reliability of instrument current and voltage transformers should be substantially increased. Instrument current and voltage transformers of the non-electromagnetic type are needed.

The basic task of NTP with respect to cables is to ensure their fire-proof quality.

Electric motors for internal needs constitute an extremely important element, determining the reliability and economy of the work of KES, TETs and AES. Vigorous measures to ensure their reliability are necessary.

Another extremely important task for the coming period is further development and widescale introduction of electric drives with the rotational frequency regulated by means of thyristor converters, hooked either into the circuit of the stator or the circuit of the rotor. The use of these drives in 200-300 MW power units makes it possible to reduce electric power consumption for internal needs by 8-10 percent, with a conventional fuel saving of 1.4-2 g/(kW-hrs) per unit.

There must be industrial series output of similar drives expressly for the internal needs of electric power plants, in consideration of the specific nature of the requirements determined by the work conditions at the electric power plants.

In order to eliminate double transformation, reduce electric power losses and simplify the commutation equipment, electric motors with a power of 200 kW and above, and with a rated voltage of 10 kV must be developed and introduced into the systems for the electric power plants' own needs at an accelerated rate.

To ensure NTP for a longer term, research and development should be continued on the use, in electric power engineering, of the phenomenon of superconductivity, particularly on the development and experimental-industrial testing of cryogenic turbogenerators and superconductive induction energy accumulators (SPIN).

Under today's conditions, and especially in the future, it is important to accelerate the development and widescale introduction of automated systems for technical diagnostics of all the electrical equipment. Systems for diagnostics, automation and control devices should be provided in complete sets with the power electrical equipment.

Service for the power objects and the supply of spare parts for them must be organized by the plants supplying the electrical equipment.

Systems and control equipment. The development and growing complexity of the structure of the USSR YeEs and the growing demands for the economy and reliability of their work, combined with the changing structure and nature of the electric power users, often very sensitive to disturbances in the electric power systems and non-standard deviations in the quality of the electric power, dictate the necessity of a constant improvement in the entire system and devices to control the production, distribution and consumption of electric power; increasing automation on the basis of widescale use of modern computer equipment. In particular, in all ASDU [automated dispatcher control system], and systems for relay protection, automated control for normal and emergency conditions, including industrial automation of electrical plants and networks, as well as systems to determine the damaged places in overhead and cable lines and other sections, wide use should be made of microcomputers and microprocessor equipment.

Considerable work must be done on improving the ASDU software at all levels, in order to create integrated comprehensive programs suitable for operating users.

In the 12th Five-Year Plan, there will be development and initial introduction of a set of devices for relay protection and line automation (RZA) for 500-1150 kV overhead lines that has improved characteristics, higher speed of response under conditions of intensive electromagnetic transitional processes, sensitivity and reliability, and is also characterized by a reduction in the power consumed as compared with the RZA set series PDE put out by the industry.

Also slated for initial introduction are sets of shields based on microelectronics for autotransformers and reactors with 500-1150 kV, converter transformers, condensation batteries and higher harmonic filters for electric power transmission lines and direct current fuses.

A wave-guided high-frequency shield, with higher speed of response and sensitivity than traditional relay protection devices, will be put into experimental operation.

Because of the on-going concentration of generated power and reduction in the number of power transmission lines (due to developing voltages of 750 and 1150 kV), there must be a rise in the reliability of power output by large electric power plants and receiving power by the large areas of charge through, particularly, developing for them complexes of automatic emergency-prevention equipment (PA), locally centralized and hierarchically coordinated in the interests of the USSR YeEs as a whole. These complexes should be made on the basis of programmed devices, with improved technical devices and software.

Particular attention should be paid to the fact that the relay protection systems and PA of the power systems and large load centers, especially with a large number of powerful synchronous and asynchronous electric motors, should be developed and designed in consideration of the need for their precise interaction, i.e., they should be regarded as a unified complex.

The further development and rise in technical level of all types of links used in electric power engineering is extremely important for an improvement in the entire control system. Along with improving widely used communication channels along the wires of overhead power lines and along the conducting communication lines, there must be a substantial expansion of the use of channels along wires and cables suspended from the supports of overhead power lines, and also of radio relay lines, as well as speeding up research and ensuring the introduction, on ever-increasing scales, of fiber-optics communication (VOS). The use of VOS makes possible a substantial reduction in the consumption of non-ferrous metals for communication channels. It has a number of essential advantages over communication along wires:

nonsusceptibility to the effect of electrostatic and electromagnetic fields, the possibility of developing a large number of channels along a single optic fiber, low mass, etc.

Great attention in the 12th Five-Year Plan and in the following period as well should be paid to controlling and ensuring the required quality of electric power and to creating the necessary means for this. The power network and load should be examined in close interaction, as a complex, in which the quality of the electric power is determined not only by the power network, but also by the consumer.

Scientific-technical progress in electric power engineering is unthinkable without systematic work on improving the entire system of operations. Without dwelling on the numerous directions for this improvement, we will note only the need for widescale use of simulators based on computers, to instruct and train the operating personnel of electric power plants and networks.

In conclusion, the following points must be emphasized.

1. Scientific-technical progress in electrical power engineering is possible only with widescale development of the corresponding fundamental and applied scientific research. To ensure this research and the successful use of its results in planning and in practice for the work of electric power engineering systems, there must be modernization of the existing and development of new experimental bases and experimental-industrial units, as well as funds for research.

2. It is very important to develop the theory and methods of analysis and synthesis of work conditions and the principles of developing electric power engineering systems; to develop, on their basis, practical methods of estimating and designing systems, as well as to designate operating conditions and principles for the development and functioning of all control systems, without exception.

3. In research, development, design and operational practice there must be a comprehensive, systematic approach to electric power associations, regarded as a unified complex to generate, transmit and use electric power and control systems.

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12151

Thermal Power Station Retooling, Modernization
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[Article by F.L. Kogan, candidate in Technical Sciences, V.A. Valitov and I.P. Plyasulya, engineers, Soyuztekhnenergo: "The Directions of Technical Re-equipment and Modernization of the Electrical Section of a TES"]

[Text] In 1985-1986 the Soyuztekhnenergo Production Association worked out criteria to evaluate the need for technical re-equipment (TP), modernization and renovation of the electrical equipment, relay protection

devices and automation of electric power plants and networks, and prepared recommendations on the projects and types of work for TP and renovation of electrical units and a proposal on commissions to inspect the electrical part of the power projects. This was an opportunity to begin an investigation of the state of the electrical equipment in power systems.

The inspection is done by the power plant personnel, as a rule, independently or with the participation of Soyuztekhnenergo representatives. As the result of this work, planning institutes have obtained material in the form of acts of inspection and decisions of the commissions, which are used to prepare plans for TP, technical-economic estimates for specific TES and a technical-economic report on the TP for the sector.

As the result of analyzing these materials, the need has arisen to create a concept of TP and modernization in the electrical part of the TES. This concept can be created only by the joint efforts of all the enterprises and institutes dedicated to solving this problem, since it requires an estimation of the actual potentials for the industry to replace the electrical equipment, as well as the latest studies and actual possibilities of the USSR Ministry of the Electrical Equipment Industry and Soyuzenergomont concerning modernization of specific types of electrical equipment, ensuring its reliable and economical work.

The following criteria are expedient when working out the concepts. The first of them is connected with the need to use unified technological planning norms (NTP) for electric power plants newly under construction and reconstruction. The existing NTP for thermal electric power plants were introduced in 1981 and are presently being revised. All the TES being modernized, retooled or expanded should satisfy the higher requirements of the new NTP, and forced deviations must be agreed upon each time. Otherwise, in the course of the ensuing 30-40 years, most of the electric power plants in the country will fail to correspond to the modern technical level.

The second criterion is related to the need to single out, first of all, the most unreliable types of electrical equipment (although the TP of the electrical part of TES is closely connected with the TP of the thermotechnical equipment), which in 30-40 years of operation have become obsolescent or physically unsuitable for further use. They have turned into hotbeds of an increased accident rate and, because of this, need to be replaced regardless of what decisions are made in the thermotechnical part of the TES. At the same time, there is electrical equipment which can remain in operation until its service life is exhausted, even with the replacement of boilers and turbines, if the power of the units is not changed through this.

For example, series T2 turbogenerators, already in operation for 50 years, and TV2 generators with a power up to 30 kW, which have served for over 30 years, are

connected to turbines using low steam parameters, subject to dismantling, and therefore, it is expedient to dismantle the turbogenerators along with the turbines. Of course, it is also possible to rebuild these machines (replace the windings and unreliable units), but this solution is expedient only in the rare cases when it is not stipulated that the thermotechnical equipment being dismantled is replaced by other, more powerful equipment.

Series TV2 turbogenerators with a power of 50 and 100 MW and TVF-60-2 and TVF-100-2 turbogenerators should in addition be inspected to substantiate decisions on their replacement or modernization. At the same time, inspection and special tests should confirm that the condition of the non-modernized units (particularly the stator core) ensures their life being prolonged by another 20-25 years. The later output TVF-63-2 and TVF-120-2 turbogenerators with thermoreactive insulation can as a rule, after low-cost modernization, remain in operation for a long time.

TV2-150-2 turbogenerators will be replaced by TGV-200D type turbogenerators at the Elektroyazhmash plant. It is expedient to replace TVV-165-2, TVV-200-2 and TGV-500 turbogenerators, regardless of the state of the turbine, with generators of a unified series. The basic machine park of the TVV-500-2, TVV-320-2, TGV-300, TGV-200M and TVV-200-2A type, which have not worked out their life, can be kept in operation under the condition that low-cost measures are introduced to increase their reliability.

The plants of the USSR Ministry of the Electrical Equipment Industry are developing production of unified series turbogenerators with a power of 63, 110, 160, 500 and 800 MW, and development of 220 and 320 MW machines should be completed soon. These turbogenerators can be placed in a complete unit with excitation systems and other safety systems. The degree of completeness, upon agreement with the purchaser, can be total or partial. Here, new machines with 220, 500 and 800 MW power are installed on the old bases of series TVV generators, and turbogenerators with 63, 110 and 320 MW power can be placed in a complete unit with transition plates and larger size ring bolt feet. There is also a successful experiment in replacing TVV-165-2 generators with a TVV-160-2E generator, with a small adjustment in the base (for example, power unit No 1 of the Litovo GRES).

The USSR Ministry of the Electrical Equipment Industry provides, on the request of the electric power plants, the supply of static thyristor excitation systems to replace electrical machine systems using old turbogenerators with a power up to 120 MW that have worked out their life and are obsolescent. The thyristor turbogenerator excitation systems that are in operation are not

always reliable, but apparently it is economically expedient to change them only when replacing the turbogenerators. In this case preference should be given to systems with parallel thyristor self-excitation.

One of the important problems that the USSR Ministry of the Electrical Equipment Industry must quickly solve is the development of generating-station circuit breakers, built into the phase-screened conductor and calculated to cut off short-circuited currents. The use of generating-station circuit breakers makes it possible to maintain the feed for the internal needs (SN) of the working transformers when turbine-driven sets are being repaired and to keep the reserve transformers for SN in automatic reserve, which sharply reduces the probability of accidents with full discharge of the load of the electric power plants due to loss of the SN feed. The use of generating-station circuit breakers rated for short-circuit cut-off, instead of the presently used load switches is a pressing matter.

Most of the electric motors in the system for internal needs of a TES do not meet today's requirements for the permissible number of start-ups, long life, reliability or protection against the action of dust and moisture. The industry should rapidly expand the production of electric motors of the fourth and new generations, developed in accordance with the technical requirements recently approved by the USSR Ministry of Power and Electrification and Ministry of the Electrical Equipment Industry.

It is expedient to organize the replacement of many-times repaired electric motors with an obsolete design by new ones, without waiting for the approval and realization of the plans for TP. This requires adjusting or even rebuilding the bases, but will on the other hand substantially increase the operational reliability of electric power plants and will free repair personnel.

Independently of the replacement of the basic equipment at all electric power plants, there must be a replacement of power and control cables with sheathing. Here the priority should be to replace the cables with polyethylene insulation, cables of grade AAShv, power and control cables with rubber insulation in service over 20 years, cables operating under high temperature and humidity conditions, in service for more than the norm-set period, as well as cables with damaged protective covering.

In addition, measures must be worked out to re-equip cable fillers with fire-retardant fillers, and when this is impossible, the cables should be coated with OPK paste. It must be borne in mind that when modernizing basic power equipment, all the power and control cables that will be dismantled are unsuitable for relaying and should be replaced. Cables on which the work "life" and reliability of the entire electric power plant depends should be laid along separate lines.

The USSR Ministry of Power and Electrification must raise the requirements for the design and manufacturing quality of power and instrument transformers, as well as high-voltage commutation apparatus to be introduced into modernized and new power projects. The electrical equipment industry must accelerate the development and assimilation of SF₆ equipment and vacuum switches.

The materials and conclusions of the commissions that have carried out and continue to carry out the inspection of the electrical equipment should be examined and analyzed in consideration of the decisions outlined for TP of the thermal engineering part of specific electric power plants, as well as of the potential of Soyuzenergomont and the electrical industry to renovate and modernize specific types of electrical equipment.

Soyuztekhnenergo, in conjunction with the VNIIE [All-Union Scientific Research Institute of Electric Power Engineering] and the TsKB [Central Design Office] of Soyuzenergomont, is presently working out the form

for certification of the technical condition of turbogenerators and auxiliary systems, indicating the need for replacement of their units. Certification of the turbogenerators, the estimated service life of which will be exhausted before the year 2000, will make it possible to work out a long-range plan of operation for TP and modernization of turbogenerators, determining the need for material-technical resources and spare parts.

This article does not encompass all the problems requiring a solution in the TP of the electrical part of electric power plants. To develop the concept of TP there must be a broad exchange of the opinions of specialists on electric power plants and power systems, the electrical equipment industry, sectorial institutes and planning and repair organizations. In the last analysis, the decision on the type and volume of TP should in each specific case be confirmed by technical-economic calculations.

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12151

EDUCATION

Statistics on National Education Detailed

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[Unattributed article: "The Country's National Education on the Eve of Radical Changes"]

[Excerpts] Over the years of Soviet rule, 92.4 million persons have received a general secondary education and about 70 million workers, 35.3 million specialists in the secondary skill category, and 22.3 million specialists in the higher skill category have been trained.

In 1987, there were 164.3 million persons with a higher and secondary (complete and incomplete) education. At the start of the 1987-1988 academic year, nearly 110 million persons were engaged in all forms of instruction, including more than 57 million students in general education schools, secondary vocational and technical schools, and secondary specialized and higher education institutions. At the present time, 708 persons out of every 1,000 members of the population 10 years of age or older have a higher and secondary (complete and incomplete) education (there were 108 persons in 1939).

Striking changes have taken place in the level of education of workers engaged in physical and mental labor: 845 out of 1,000 persons engaged primarily in physical labor and 989 out of 1,000 engaged chiefly in mental work have a higher and secondary (complete and incomplete) education. In 1939, these figures for persons with a higher and secondary (complete and incomplete) education were 45 and 515, respectively.

At the present time, 889 of every 1,000 persons working in the national economy have a higher and secondary (complete and incomplete) education (there were 123 in 1939); this indicator exceeds the average national level in the Ukrainian, Uzbek, Georgian, Azerbaijan, Armenian, and Turkmen union republics (this figure varied from 45 to 163 persons in 1939).

The level of education among the rural population has increased significantly. More than 80 out of every 100 working residents of rural areas have a higher and secondary (complete and incomplete) education, whereas only 6 out of 100 had this education in 1939.

The level of education of working men and women is practically even. The educational level of working youth has risen: over 90 percent of working young people have a higher and secondary (special and general) education.

Now every fourth person working in the national economy is a specialist with higher and secondary specialized education. More than one-fifth of the working youth who do not have a higher and secondary specialized education have acquired a working occupation in the vocational and technical education system.

In the current academic year, three-fourths of all secondary general education schools have vocational orientation training rooms and the majority of schools have been provided with television sets, tape recorders, narrow-film projectors, and other equipment.

Students in upper classes are given work instruction, and more than half of them take part in interscholastic on-the-job training centers for work instruction and vocational orientation that have been specially organized for these purposes.

Some 42 percent of 6-year-old children are being taught in accordance with a school program, and 600,000 of them are in preschool institutions.

Teaching of the course "Basics of Information Science and Computer Hardware" has been introduced in 63,000 daytime secondary general education schools (99 percent). Instruction in the fundamentals of information science and computer hardware is being given to 4.6 million students.

The material base of education institutions is being reinforced.

Capital investments for the "National Education" sector were increased from 3.3 billion rubles in 1984 to 4.7 billion rubles in 1987, or by nearly 40 percent as much. Capital investments in general education school construction have been substantially increased.

General education schools to accommodate 1,454,000 students and preschool institutions to accommodate 678,000 children were built through all sources of financing in 1987 alone.

The number of work places equipped for socially useful and productive work by schoolchildren has been increased, which has made it possible to reduce the number of students at one work place. Wages for national education employees have been increased in stages.

The CPSU Central Committee and USSR Council of Ministers decree "On further developing the vocational and technical education system and increasing its role in training skilled personnel" stipulated that the training of skilled personnel in schools should become the basic pattern in making the transition to universal vocational instruction for youth.

In this case, particular attention has been devoted to the need to increase the level of students' vocational training, and primarily their on-the-job training based on a closer combination of instruction and productive labor, their mastery of practical skills, and their ability to make use of new equipment and technology efficiently. In order to implement this, it is planned to expand the network of base enterprises, to improve material and technical support for training shops and sections and

trade schools, and to create the necessary conditions for schools' graduates in production for their growth and consolidation at work places so that they thoroughly master the specialty acquired.

The vocational and technical education system is now training 2.5 million skilled workers, or two-thirds of the number required to replenish working collectives.

The immediate task is to improve the quality of specialists' training, to provide for a close relationship between the VUZes and sectors and enterprises, and to prepare specialists in conformity with the actual requirements of the national economy. Attention has been devoted to the need to fully meet the national economy's requirements for skilled middle-level personnel who are capable of resolving specific problems involving technical progress in the primary production units.

Nearly 4 years has passed since reform of the general education and vocational school was adopted, and it has been about a year since the day that the basic directions for restructuring higher and secondary specialized education in the country were confirmed. And unfortunately, it must be stated that reform of the school has slipped and that restructuring of the higher school is being carried out unsatisfactorily.

The principal task set by the secondary school reform is combining instruction with productive labor. Altogether, about 3 million work places were organized for the beginning of the 1987-1988 academic year. In the country as a whole there has been an average of 4 students in grades 7 through 11 for one work place; there have been 7 students per work place in the Kazakh SSR and Georgian SSR, 9 students in the Uzbek SSR, and 10 students in the Kirghiz SSR and Armenian SSR. Naturally, with such an overload in many republics, it is impossible to set up any kind of normal work instruction process for schoolchildren and to provide them with the necessary minimum of work skills.

A second and no less important task is computerization of the educational process in schools. What is the state of affairs in this important area?

At the beginning of the 1986-1987 academic year, instruction in practical studies utilizing a computer was provided for 13 percent of the students in general education schools, 18 percent of those in secondary vocational and technical schools, and 27 percent in *tekhnikums*. In the current academic year, 14 percent of the secondary schools in the country as a whole have been equipped with study centers for teaching information science and computer hardware fundamentals, but this figure is less than 1 percent in the Turkmen SSR and the Tajik SSR.

It is not hard to notice that computerization of the schools also has not been extended properly and that the lag in providing computer hardware and failure to ensure the readiness of a physical base has had an effect.

Many shortcomings and much unfinished work in the educational process have been revealed in the course of the reform. The number of persons who have left educational institutions and remained for a second year of instruction has increased. Every year an average of 300,000 students (0.8 percent) leave school and 200,000 (5 percent) leave the SPTU's [secondary vocational and technical schools]. The number of students repeating a year in school increased from 180,000 (0.5 percent) in 1984 to 467,000 (1.1 percent) in 1987.

There is serious neglect present in the overall physical training of students as well. Schools are not being adequately provided with sports structures. Because of the lack of physical facilities, more than 5 million students do not have the chance to take part in athletics regularly.

Surveys show that 60 percent of school-age children do not know how to swim; more than 2 million individuals with poor posture, curvature of the spine, and retarded physical development are revealed in routine examinations of children up to age 15 every year. About one-third of the schoolchildren do not receive hot food in schools.

The public dining enterprises attached to general education schools should accommodate 7.9 million persons in accordance with the norm (based on the number of students in the first session and approved by the USSR Gosstroy, there should be 250 seats per 1,000 students). There have been 90 public dining enterprises for every 100 city schools, but 61 enterprises for rural schools.

In every sixth school in the country, on the average, eating facilities for students have been organized in temporary accommodations (gymnasiums, assembly halls, and so forth), where the necessary conditions are not provided.

A survey of 7,140 daytime secondary vocational and technical schools (92 percent of the total number) accommodating 3.6 million persons (91 percent of the total number of students in these schools), conducted in 1986, showed that an average of every 10th school did not have a public dining enterprise.

There is still considerable overcrowding in the schools. The enrollment of 6-year-old children has led to an increase in the number of sessions and a decrease in the number of students in extended-day classes. In the current academic year, 9.3 million (23 percent) of the schoolchildren are being accommodated in second and third sessions. The number of students in grades 1 through 8 included in extended-day classes has dropped to 30 percent.

The proportion of young persons who go to work in the national economy after completing secondary school is declining from year to year. At the same time, more than 30,000 students graduating from secondary general education daytime schools are not being drawn into public production each year. In the 4 years since the reform was adopted, the state of affairs with respect to fulfillment of plans to send the graduates of secondary vocational and technical schools to work has not changed for the better. In 1986 alone, more than 350,000 young workers were not assigned according to plan. Every third vocational and technical school graduate is dismissed during the first year of work. Surveys show that every fifth graduate of a secondary vocational and technical school is not working in the occupation acquired in the school and that more than one-third of them are dissatisfied with their work.

The situation with respect to utilization of specialists with a higher and secondary specialized education is no better. A selective survey conducted by the USSR Goskomstat [State Committee on Statistics] in 1987 showed that about 4.4 million VUZ and tekhnikum graduates were working in positions which do not require this level of preparation and that 3.5 million of them were being utilized in working trades.

Many of the positions of managers and specialists which should be filled by persons with a higher education, in accordance with skill category requirements, are being filled by persons with a secondary specialized education. Every fourth manager of enterprises, institutions and organizations in the national economy has a secondary specialized education. Every fourth chief economist and

every fifth chief engineer and deputy manager; nearly every third chief specialist among engineers, power engineers, mechanics and technologists; and nearly two-thirds of the chief accountants have had a secondary specialized education.

The specialty acquired in an educational institution does not always correspond to the specialization of the position held. In industrial enterprises' design, process engineering, and planning departments, for example, the positions of engineers are held by 23,000 persons with a higher and 26,000 persons with a secondary economic, agricultural, livestock breeding, and veterinary education. Altogether, 168,000 specialists with a higher and secondary skill category who have an economic, agricultural, livestock breeding, and veterinary education are filling the the positions of engineers and technicians in industrial enterprises.

Only 2.5 million, or 46 percent, of the 5.4 million employees who hold positions as engineers (including senior engineers, except for chief engineers) have had an engineering education. About 30 percent of engineering positions have been filled by technicians.

The objective necessity for radical restructuring of the national education system that has taken shape in the country is dictated by the serious omissions and shortcomings in carrying out reform of the secondary and vocational schools and in training and utilizing specialists in a higher and secondary skill category.

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8936

AUTOMATION, AUTOMATED SYSTEMS

Automation, Computerization of Inspection Work Urged

18230037a Tashkent *EKONOMIKA I ZHIZN* in Russian No 3, Mar 88 pp 20-21

[Article by M. Malikova, candidate of economic sciences, TINKh: "The Inspector Needs a Computer Too"]

[Text] The practice that has developed in inspection-control work has been placing the representatives of intradepartmental and intraeconomic control more and more frequently in the strange position of contemplators of events who only conscientiously record instances of poor economic practices. And how could it be otherwise? By carrying out all the computations manually, the inspectors do not have enough time not even to analyze the entire diversity of the intraproduction and extraproduction ties with the subsequent prevention of possible violations, but also simply to encompass the entire stream of information that is swiftly changing every day concerning the enterprise's economic activity.

This situation comes into sharp contradiction with those requirements that are made on the normal life of any enterprise. And that especially applies today, when entire branches are changing over to the new management methods. The slightest miscalculation, even if it has been made for reasons of oversight, lack of knowledge, or carelessness, can lead to considerable losses.

That is why the role of the inspector under the new management conditions takes on a different meaning — at the present time what is required of him is not the simple recording of various instances of economic violations, but the foreseeing and prevention of them. This can be achieved only by improving the inspector's work, first of all by giving him means of electronic-computer technology to assist him.

This recommendation evolves from the fact that, with the appearance of the new methodology for communication between man and the electronic computer, with a sharp reduction in the time for the "man to machine" dialogue, it is become possible to employ technical means to fulfill urgent assignments, to search for information, and issue answers to the users' requests, and to resolve administrative tasks in which the technical operations of data processing alternate with analytical and creative ones. The appearance of new computer technology has also made it possible to carry out simple settlements, which previously it was undesirable to ask a computer center to carry out.

All this provides a large expanse for automating the search, identification, and comparison of information, that is, for carrying out processes without which the inspection-control functions would be simply inconceivable.

Let us examine how questions of automatizing the control operations are "written into" the vital activity of economic enterprises. Let us dwell on machine-building, where the technical-organizational prerequisites for automating this type of administrative activity have already been created — at most of the enterprises in this area of specialization, data-processing systems for ASU [automated management system] are already functioning, the information base of which systems contains potential initial information for control: reference-normative, planning, accounting.

Taking off with this information, at Tashselmash, Uzbekkhlopkomash, Uzbektekstilmash, and other machine-building enterprises in the republic the inspection-control tasks are being partially resolved with the aid of electronic computers. But for the time being these are only modest attempts that do not encompass all types of control and inspection. For example, the IVTs [Information and Computer Center] of Production Associations have been comparing the available commodity-material assets with the bookkeeping data. Although these are control functions, the truncated volume of information does not allow the checker to make the complete analysis that is possible with the aid of a computer.

Or take another example. With traditional control and inspection of labor and wages, the inspector has to check manually the results of numerous payment and settlement lists and to compare the initial documents with the settlement lists and cash accounts. This is mandatory work, in the course of which any errors that are made do not show up until after various group tables have been prepared. That is, the preliminary work — the preparation of those tables — requires the expenditure of a large amount of time, and this greatly reduces the productivity of inspection work.

Under conditions of automation, this procedure can be carried out rather quickly by electronic computers. By reducing the routine, labor-intensive work, it is possible finally to give the checker (inspector) the opportunity in more detail to study the production and economic-financial activity of the enterprise and to compute the different versions of events over the long-term period.

Work with the help of electronic computers demand of the specialists the intraproduction control of labor methods that are different than those used in manual work. In particular, the technique of grouping data can be based on the repeated use of information banks that are recorded on machine carriers for preparing various kinds of tables, the use of which in various cross-sections can increase the quality and speed of carrying out control and inspection operations. Moreover, in this instance one can obtain from the computer that information which, with the manual method of control, previously had to be rejected because of the complexity of obtaining the data.

One can also cite examples that prove the necessity of the union between the inspector and the electronic computer. In order to give control and inspection work as a whole a harmonious and integrated nature, it is necessary to group all the tasks it includes into the subsystem "Control and Inspection." The need for this step is proven, first of all, by the independent role of this function in the process of administration; secondly, by the systems approach to the resolution of the given problem; and thirdly, it is confirmed by the entire practice of development of ASUP [automated enterprise management system], which has shown that the local automation of particular inspection tasks is incapable of leading to the improvement of the organization of control and inspection at the enterprises.

It is recommended that the functional tasks of the "Control and Inspection" subsystem be grouped into technological complexes: the use of fixed assets (funds); operations with material assets; the use of labor and wages; expenditures for production and the production costs of the output; finished output; monetary and settlement-credit operations; the status of combined accounting and reporting.

The model mentioned by us has been called upon to assure the regular obtaining of control information and its active use for exerting an immediate effect upon the enterprise's activity. Herein lies the basic purpose of the automation of control, which provides the administering system with the necessary information for exerting a regulating effect upon the object of administration.

In order to study the informational interrelationships both within this subsystem and with other subsystems in the ASUP, one can use the graph-analytic method. This is justified by the fact that the "Control and Inspection" subsystem basically is the consumer of the information that arises in all subdivisions of the enterprises, many of which pertain to the functional subsystems of bookkeeping, the administration of material-technical supply, the technical preparation of production, etc.

The proposed methodology for organizing the automated preparation of data for inspection stipulates the integrated processing of the accounting and inspection data for the corresponding sectors. As a result, it is necessary to ascertain and to work out the trends for the integration of the accounting of the fixed assets and the inspection of their use, the accounting of material assets and the inspection of operations with them, the accounting of labor and wages and the inspections of their use under the conditions of the ASUP.

The designing of the information base should be done with the use of the process approach, with the aid of which, by means of the thorough scientific analysis of the data that is to be inspected, it is possible to isolate the necessary and sufficient quantity of indicators that reflect most completely the objects of administration and the tasks of inspecting the sectors to be considered. These indicators can be grouped in the form of the machine outputs, the automated obtaining of which stipulates the use of algorithms for transforming the norm-reference and time-responsive information which form the banks of input information.

For purposes of increasing the time-responsiveness of control and inspection, and for intensifying its role in the administration of the enterprise's economic activity, provision has been made for the possibility of obtaining definite resultant information not only for the report period, but also as of any date within the confines of that period (in the event that such a need arises), that is, its formation in a request mode. This mode will make it possible to group the information for any time period, and this is very convenient for issuing statements pertaining to the appropriate characteristics.

For the program implementation of the functional tasks in the "Control and Inspection" subsystem, the methodology provides for the use of packages of applied programs that are intended for accounting for the enterprise's resources (fixed assets, material assets, labor and wages).

The introduction into practice of the automated "Control and Inspection" subsystem makes it possible, as has already been stated, to eliminate the routine operations in preparing group tables and in comparing various primary documents, and to reduce considerably the labor-intensity of control and inspection. In addition, the functioning of the subsystem will considerably improve the time-responsiveness and effectiveness of administration, and will guarantee not only the prompt location of violations that have been committed in production, financial, and economic discipline, but also, by controlling the economic operations, will promote the elimination of their incorrect execution. All this will become a barrier to the excessive and illegal expenditures and will improve the quality of the document inspections.

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CIVIL AVIATION

New Approach to Accident Investigation

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[Interview by V. Chebakov with V. Smykov, first deputy chief of the State Scientific-Research Institute of Civil Aviation: "This Orange 'Black Box'" (First paragraph is source introduction)]

[Text] An airplane crash occurs... There is an investigation... Such sad reports appear every so often on the pages of the newspapers. How can we reduce their numbers or eliminate them altogether? After all, you are closely involved with the solution to this problem? This is the question posed to State Scientific-Research Institute of Civil Aviation First Deputy Chief V. Smykov.

[Answer] "Glasnost [openness] today helps us to work in the necessary direction: to study not the consequences of the catastrophe, but the reason for it," answers Viktor Georgiyevich. It allows us to combat not the results, but the cause. Before, we often forgot the main thing in our discussions and issued recommendations on how to overcome the consequences of the catastrophe—to save face and not to blacken the reputation of aviation. Yet the essence of the matter remained in the shadows. But, without knowing the prerequisites for an accident, it is impossible to work out means for counteracting the tragedy. In the course of any investigation of a flight accident, I ask myself one question: was the accident fatal? Could a person have countered the circumstances with professionalism and composure in order to overcome this situation?

[Question] That means technology and man? Only by evaluating their interaction is it possible to understand whether or not what happened was inevitable.

[Answer] Once at the institute, in order to get to the bottom of the matter, down to its primary occurrences, we plotted a cyclogram of the pilot's actions in an extremal situation. After all, it is specifically during such moments that a person really shows his true self. Even the best machine is designed in such a way that it has limits to its capacities. But for a man these limits, as we know, are much broader. Time always prevails over man. There are situations when there are only seconds to make a decision.

[Question] For example?

[Answer] The recent crash at Krasnovodsk. During landing approach, a TU-154 hit the ground and burst into flames. In our terminology, "the development of an emergency situation into a catastrophic one" takes 8-10 seconds. If in the first 3 seconds the crew does not find the only correct solution, the other 5 already make no difference. There will be a catastrophe. And now the measuring tool. Where to find it and how to evaluate it? Let us get down to earth. A lathe operator has made a

part, but it is rejected by the OTK [technical control section]. The worst thing that will happen is that they will deny him his bonus. But for the pilots it is their own life and the lives of the passengers which hang in the balance...

This conversation has a prehistory. I met Smykov before a flight to Antarctica. At that time, a heavy IL-76 TD was to make a landing for the first time on a snow and ice airport on the Sixth Continent. I noticed that everyone was nervous, but he seemed to remain removed from the event, even though he was the director of the scientific-experimental program during this trip. I recall that as soon as I met him I was at once impressed by the calmness of this man, by a certain reliability. Risk and romanticism—these concepts were not for Smykov. You must understand that all this is in the interpretation of a specialist who bears the specific weight of responsibility. There is the most precise engineering computation and skill of pilots. This is the basis of all basics, his life's position.

Viktor is not in aviation by accident. One might say that he was born at an airport which was famous in the years of the war, in the town of Seshcha in Bryansk Oblast. His father was a fighter pilot. His father's brother served in bomber aviation and died during the war. Once his father put the 14-year old Viktor in the co-pilot's seat of a PO-2 and took off for the sky. That is when the choice for the youngest Smykov was made. However, he never was able to take a plane up into the air himself. His mother categorically objected against another pilot in the family. He enrolled in the department of aircraft construction at MAI [Moscow Order of Lenin Aviation Institute imeni Sergo Ordzhonikidze]. He became an engineer, but with what an addition—a test pilot! He performed flights on the AN-24, IL-62, TU-154, TU-144 and IL-86.

Some of these aircraft crashed for various reasons. Why? The answer was often contained in the "black box" which is so enigmatic for most of us.

[Question] "So what is this 'black box'?", I asked Smykov.

[Answer] First of all, it is orange and round in shape. It receives signals along 256 channels from all the systems of the aircraft—how the flaps move, how the turbine operates, how the lowering of the landing gear is secured, and so forth. The instrument is intended to withstand 100-time overloads. If the airplane smashes into a mountain at cruising speed, the "black box" will remain intact. The ceramic "shell" can withstand temperatures of up to 2,000 degrees.

We have overcome the situation when instruments were mounted on airplanes for the sole purpose of determining the cause of an accident. Today with their help we can predict the condition of the technology—to "catch" predispositions to failure of one unit or another. The

numerous parameters from the "black box" fed into a computer help to simulate not only the dynamics of the flight, but also the trajectory of movement of the airliner.

[Question] But does it happen that the "black box" is destroyed?

[Answer] Rarely. At the same time, all the conversations of the crew are recorded on a tungsten magnetic wire which can withstand any physical loads. These recordings must be heard in order to understand the situation in which the crew finds itself...

Several years ago there were 5 crashes, one after the other. We received the deciphered information from the "black boxes". The recordings showed flat lines, while the wire yielded—silence. All the assemblies of the airplanes operated normally. For the engineer such behavior by the crew was totally absurd. But the main thing was that there was no data bank for analysis of what had happened. What should we do? There was only one solution—to sit down with a crew in the same kind of craft and to simulate the flight and the final actions of those who perished. Smykov lived through this critical situation in the air and obtained his initial information. He understood that it is not a stereotype, but the analytical thinking of the engineer which finds the truth.

"What happened, then?", thought Smykov. The AN-24, for example, was flying in the regimen of gaining altitude. The weather conditions were poor: a low border of clouds—150 meters. Only below this altitude was it possible to see the real horizon, and then only if there were some lights shining on the ground. The crew routinely looks over the instruments. At that time the flaps are raised and there is a rebalancing of the aircraft independently of the pilots. And instead of gaining altitude, the plane begins to descend. The regimen of the engines is the same. It was only necessary to overlook one single instrument—the vertical speed indicator (it changes sign from plus to minus)—and the airplane would go down with the same vertical speed, 20 meters per second. It is 150 meters from the edge of the clouds to the ground. The time to think is only 7-8 seconds, and, as I have already said, only the first 3 are decisive! After them—catastrophe! We were able to simulate this situation then and to understand the psychology of the people who had perished, in order to emerge at a technical solution to the problem. We concentrated the attention of the pilots on this. There were no more such cases for a long time.

And then something similar happened again, but on a different aircraft and under different conditions...

[Question] Again the "black box". By the way, is the pilot afraid of it?

[Answer] Yes, he is. Although this concept in your formulation is almost incompatible with the profession of pilot. According to the decoded materials, the pilot

may be punishable by a jail term of from 5 to 15 years. What a great responsibility lies with those people who deal with these recordings! Guilty or not guilty? They must prove that the pilot was professionally incompetent and that his careless actions entailed particularly dire consequences. But he will say: "I'm not at fault. They passed off some poor equipment on me". In this case it is necessary to "separate" the man from the machine.

I do not sign the sentence, but I do participate in the accusation or acquittal. As a person, I strive, naturally, toward justification and seek it, this justification, in the extremal situation in which the person has found himself.

If the pilot had not been afraid to make another pass, there would have been no fatal outcome at Krasnovodsk. But does the threat of the "practical conclusions" prevail over the pilot? And the "black box" would have recorded this second pass, as if confirming the failure of the pilot.

[Question] And what about the last recordings of those who perished?...

[Answer] We listen to them. It happens that I sometimes even take them home. It is my job. I reproduce the recording of the flight recorder and hear even the clicks of the switches as they are turned on the panel of the cockpit. There emerges a logic in the dialogue between the ground, the crew and the aircraft.

My colleagues say that I hear more in these recordings than others. Why is that? For many years, often being present in the cockpit during flight tests, the images of these sounds were born in me, and they became lodged in my brain. Once I gave several pilots a recording of these "emergency melodies". I recorded them in order, like a charade. You know, not everyone recognized these sound images. Yet they are distinguished by the level of decibels and by their interrupted nature. This is a science in itself. And so, when a professional listens to such recordings, he gets an image of the crew's behavior—what they did in the given situation, how they acted, and what they said. Sometimes only after a month of listening I would understand why a person said certain words...

Testing of the Czechoslovakian L-410 airplane was underway. Several years ago this testing was performed by a mixed crew: two extra-class pilots, Commander Gleb Galitskiy and a second pilot Vladimir Vlk, along with engineers Yuriy Maksimov and Yaroslav Nastyrskiy. The tail of the aircraft came off during flight. They were in uncontrolled flight. The crew reported what had happened to ground control, although they did not know that there was no communication—the antenna had been torn off.

As it later became clear, they had only 26 seconds to act. Remember, I have already spoken about these short seconds. There was noise and crackling in the headphones. Smykov did not understand two phrases. One was uttered by Vlk, the other by Galitskiy. He listened for a week, for a month. Then he finally made it out and now remembers it by rote. Vlk said: "Tower! Tower! We've lost the directional rudder!" How could he determine this, and so quickly? Smykov met with his Czechoslovakian colleagues. He found out that this was the second such incident for Vlk. The first time the rudder was partially damaged and he was able to land.

Galitskiy said: "Let's try another frequency!" In 26 seconds the man was able to understand that they could not be heard and that they had to switch to a different radio frequency and antenna which was not in the zone of damage to the aircraft.

The test pilots kept the tailless craft "in the horizon" with the aid of the engines. They were able to prepare for landing—they lowered the flaps, restored communication with ground control and reported what was happening on board. They were over a village, but found a garden and plowed into it at a speed of 20 meters per second. And all this took place in 26 seconds! Their colleagues continued their work, and thanks to the courage and high professionalism of those who had perished, were able to correct the defects and bring the craft to the necessary condition. Today it is reliable and flies in many countries...

"The recording is informative," says Smykov. "But it is also revealing, because in an emergency situation you can judge the competency and level of training of the pilot from his conversations. It can be an alibi or an accusation."

[Question] Do you often have occasion to simulate a catastrophe on the same type of aircraft together with the test pilots?

[Answer] Yes, I have gone through that. There is no romanticism here. Engineering thought allows us not only to introduce a catastrophic situation, but also to show how to get out of it. The main thing is—why is the aircraft destroyed? The crew does not have time to find a way out of a complex situation. Yet engineering thought finds it. When such an experiment takes place, the situation is close to the catastrophic one, but this time it is controlled. Today's pilot knows the way out of it. After all, we are not suicidal.

[Question] Is the flight investigation experiment mandatory?

[Answer] Only in a controversial situation. But in flying, I also experienced and played through everything myself. For me such experiments are interesting from the standpoint of understanding the causal connections of the person's behavior in dialogue with such a complex

system as an aircraft. I am able to think more about this problem, the problem of flight safety, than those fellows who perished. They didn't have that chance. The difference is in how much time is allowed for thought. I can simulate and compute, but they had only seconds. And if I made an error, I'm not worth much.

[Question] There has been considerable experience accumulated in combatting catastrophes. Where did it come from?

[Answer] From life. We must take our hats off to such names as Chkalov, Baudykov, Bakhchivandzhi, Ametkhan, Anokhin, Anopov and Kozlov. We must pay engineering thought its due.

Recently Viktor Smykov was appointed to be the USSR expert representative to the International Organization of Civil Aviation—ICAO. Such an appointment shows a certain level of state trust. An expert must have authority and recognition of high professionalism not only in his own country. In 1978 Smykov already worked as the advisor of the USSR expert to ICAO, then later as the USSR expert on the supersonic passenger aircraft.

"Like a person, an aircraft grows old," said Viktor Georgiyevich. "And the problem of flight suitability of a craft, the determination of its 'illness' and the prolonging of this suitability is a very acute one in the world today. In Montreal, from where I have just returned, a meeting of representatives from 13 countries was held at the ICAO headquarters. It is specifically on this problem that we must now give specific recommendations within 4 years. Of course, this is the concern of more than one expert. I have a large collective behind me, and the work which must be done is also collective..."

He has checked and is checking out engineering computations in practical application. He has devoted his life to aviation. And the sky for Viktor Smykov is just as basic a work place as his office at the institute.

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MOTOR VEHICLES, HIGHWAYS

Deputy Minister Reviews Self-Financing in Auto Industry

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PROMYSHLENNOST' in Russian No 3, Mar 88 pp 1-4

[Article by V. V. Novikov, deputy minister of the automotive industry: "The First Year of Self-Financing in the Sector"]

[Text] Far-reaching tasks have been set by the 27th CPSU Congress and subsequent plenums of the party's central committee to accelerate our country's socioeconomic development, democratize society, and restructure practically all areas of the Soviet people's life. And

fundamental reforms in the economic area, in the development of all sectors of the national economy, are central in the restructuring program. Including in the automotive industry, which is of paramount importance in shaping the growth rate, technical level, and product quality of machine building as a whole.

The primary task in developing our sector in the 12th Five-Year Plan is to raise the quality and technical level of automotive transport significantly and to increase output of the most advanced types of equipment. In order to accomplish this, renovation and technical re-equipment must be carried out at a number of the largest enterprises and the base models of motor vehicles must be replaced as well. In particular, 244 new and modernized types of products (as opposed to 120 in the 11th Five-Year Plan) must be put into production and production volume must be increased by 29.5 percent (compared with 21.9 percent in the 11th Five-Year Plan).

The past 2 years of the five-year plan have demonstrated that the sector is successfully coping with the plans outlined on the whole. Thus in 1987 alone, production volume was increased by 6.8 percent compared with 1986 and above-plan output was valued at 400 million rubles. Labor productivity rose by 5.9 percent (the plan called for 5.1 percent). As far as profit, a major indicator under self-financing conditions, is concerned, over 300 million rubles were received above the plan.

Collectives of the ZIL, GAZ, AvtoVAZ, and BelavtoMAZ [Moscow Motor Vehicle Plant imeni I. A. Likhachev and the Gorkiy, Volga, and Belorussian (Minsk) Motor Vehicle Plants] Production Associations have made an especially important contribution to the results achieved; they are steadily carrying out the planned tasks in accordance with all the basic technical and economic indicators. But far from everything has been accomplished. A number of enterprises in the sector, such as the Kutaisi Motor Vehicle Plant imeni G. K. Ordzhonikidze and many plants supplying bearings, trailers and electrical instruments, are still not coping with the tasks of the first years of the five-year plan. Precisely because of their unfinished work, the sector did not manage to fulfill the plans for deliveries in accordance with contracts and the product range in 1987 (the total value of equipment not delivered was 350 million rubles), although most of the largest associations were able to fulfill 100 percent of their contract commitments. This problem is being managed particularly poorly by the bearings plants, and with respect to a number of product part numbers, by the plants turning out trailers, trolley buses, and lift trucks.

The most important feature of the sector's economy in the 12th Five-Year Plan and of all its work is the shift to the new operating conditions, based on full cost accounting and self-financing, which have been in effect since 1 January 1988. True, experience had been accumulated by this time. It is common knowledge that the AvtoVAZ

PO [Production Association] has been operating under the conditions of self-financing since 1985. But it was not complete. The point is that a number of new conditions and elements of the management system, such as obligatory 100-percent completion of deliveries in accordance with contracts, a change in the procedure of accounting for products delivered for export, state acceptance, and so forth, have been introduced for all sectors of industry since 1987. For this reason, we have begun using the terms "full cost accounting and self-financing" to denote a broad range of measures to improve planning, economic incentive, and production organization—in a word, everything that is now customarily called the new economic mechanism.

Just what are the basic features of this mechanism, and what do we see as its advanced attributes? Primarily, the fact that all its elements adhere to the main direction for improving management of the economy that was specified by the June 1987 Plenum of the CPSU Central Committee. Self-financing extends enterprises' independence and at the same time, it increases their responsibility for the results of their work, creates the prerequisites for genuine democratization of production management, and provides labor collectives with real opportunities to earn more by better work. But introduction of it, as with everything that is new, is proceeding far from smoothly, and a number of problems stemming from the new economic mechanism have not been resolved even today. At the same time, this is governed to a large extent by the time and conditions of the transition to full cost accounting: the shift is under way in the middle of a five-year plan, when the plans for 5 years have been formulated and balanced on the scale of the national economy and brought to those carrying out the work; practically all financial resources have been allocated and balanced with the physical resources. For this reason, self-financing is restricted to a certain extent by the rigid framework of the plans that were drafted, as a rule, without taking the characteristics of economic management methods into account. In addition, not all sectors are shifting to it at the same time; consequently, some enterprises have capabilities which do not correspond to the capabilities of others which are still operating in the old way. And a number of other elements of the economic mechanism (price setting, material and technical supply, for example) have not been brought up to date yet. There is no question that this is holding back the powerful potential of acceleration incorporated in self-financing.

The factors cited, which are complicating the functioning of a full cost accounting mechanism, have led to the emergence of one more problem—the lack of uniformity of the original ("startup") conditions in which enterprises that are shifting to self-financing find themselves. To a large extent, the unequal conditions themselves are the result of errors in price setting accumulated over many years and the overall inadequacy of the price system: the profit received by an enterprise and the indicator of profitability often do not reflect the actual work efficiency of the collective.

What demands has the new economic mechanism set for collectives and what does it provide for them? First of all, obligatory 100-percent fulfillment of all contracts for the delivery of goods. The mechanism for forming the economic incentive fund, as well as the system for payment of bonuses, are based on it. Secondly, an increase in the role of profit as the principal indicator of production efficiency: profit has become practically the only source of funds for production, scientific and technical, and social development of enterprises and for providing economic incentive for their employees. Thirdly, self-financing of current activity, as well as production, scientific and technical, and social development: for the first time in our state's 70-year history, essentially, we have begun to finance enterprises' investment activity not with funds from the state budget, but because the collective itself has been able to earn. A fundamentally new feature of economic activity is the opportunity to maneuver financial resources in time, that is, the opportunity to accumulate assets for several years or conversely, to make use of credit when there is a temporary shortage of funds.

So we have come to the most important feature of the new system of economic operation, to which it is also indebted for its name: self-financing.

Long-term standards for profit distribution (for a five-year plan) have become the practical basis of self-financing. Associations and enterprises make deductions to state and local budgets in accordance with constant norms and pay into funds, and the profit remaining at the disposal of collectives, again according to constant norms, is divided into the funds: a fund for developing production and science and technology (amortization deductions for renovation, in full or in part, are included in it, and also in accordance with a special norm); a fund for social and cultural measures and housing construction; and an economic incentive fund. These three funds are also the only source of capital for development and for providing incentive to collectives. Within the limits of each one of them, the enterprises themselves can determine the specific amount of capital spent and its focus.

The central question of self-financing is the level of the norms. At the same time, the norms which determine the proportion of profit left at the enterprises' disposal plays a principal role: it is precisely the size of the norms which leads to the most contradictory judgments, because in practice, the proportion of profit remaining at the enterprises' disposal is not uniform. If we take the data for the past 4 years as an example, it is easy to see that the largest share of profit (100 percent) remains at the disposal of the Kutaisi Motor Vehicle Plant imeni G. K. Ordzhonikidze, a little less (95 to 97 percent) is left for the AvtoDizel and Moskvich Production Associations, significantly less (up to 25 percent) is left for the Belavtoagregat Production Association and certain plants of the Glavavtoelektropribor [Main Administration for the

Production of Automotive and Tractor Electrical Equipment and Instruments], and even less (up to 20 percent) for the Borisov Automotive and Tractor Electrical Equipment Plant imeni 60th Anniversary of Great October.

At first glance, this is unfair. However, a more detailed analysis shows that the cause is concealed in the characteristics of the conditions and time of the transition to self-financing discussed previously, in the first place; in the second place, it stems from the fact that the Ministry of the Automotive Industry decided, in conformity with self-financing principles, to centralize a minimum amount of capital and to give enterprises the maximum amount through a system of long-term norms.

Further. As already mentioned, renovation and the shift to production of a new base vehicle model was planned for a number of the largest automotive industry associations in the 12th Five-Year Plan. The state had allocated a large amount of capital for these purposes even before the shift to self-financing. In particular, this capital was allocated to the ZIL and GAZ Production Associations to develop capacities to manufacture diesel vehicles, to the Moskvich Production Association to shift to the manufacture of a new front-wheel drive passenger car, and to a number of other enterprises. Remodeling work was under way and not completed by the time of the shift to self-financing. It is natural that the norms for the 12th Five-Year Plan should take this situation into account. It is precisely for this reason that a major proportion of the profit was left to the associations named. This was done in order not to start out by "driving" the profit into the budget and to finance the operations being carried out later on.

Operations such as this were not planned at other enterprises. For this reason, the norms for them were set so that a small proportion of the profit remains at their disposal.

In addition, the varying level of profitability for plants, which by no means reflects the actual efficiency of a collective's work, as already noted, has also had a role here. So at the Moskvich Production Association, which retains 95 percent of the profit, production profitability amounts to 9.4 percent; at the KAZ [Kutaisi Motor Vehicle Plant] Production Association, which was given the right to utilize all the profit earned, this indicator amounts to just 4.9 percent, and at the AvtoDizel Production Association, this figure is 7.8 percent. At the same time, profitability at the KamAZ [Kama Motor Vehicle Plant Production Association] amounts to 28.5 percent; for this reason, 37.7 percent of the profit remains at its disposal. It is exactly the same with respect to Glavavtoelektropribor enterprises: their production profitability is equal to 31.6 percent, and 30.8 percent of the profit earned remains at their disposal.

Unfortunately, the first year of operating in the new way has also brought out the fact that many economic managers, economists and labor collectives are confusing the requirement for additional funds with the level of norms. For example, GPZ-1 [State Bearings Plant No 1] retains 100 percent of the profit and all amortization deductions. It would seem that the norms are no better anywhere. However, the plant does not have enough funds just the same, and it receives a subsidy. So this does not relate to the norms, but to the low profitability of production: the price for mass-produced bearings is lower than their production cost.

The examples cited demonstrate that a requirement to introduce common sectorial norms is out of touch with the actual circumstances and economic methods of management. Such norms will lead to the point where enterprises will be left without funds to complete renovation after it has been begun, and the assets will be frozen as a result. Moreover, the question inevitably arises: what is to be done with the special technological equipment that has been ordered and the capacities of contracting organizations? On the other hand, the enterprises for which the allocation of capital investment limits was not specified when the five-year plan was drawn up will receive it in accordance with the common norms, but will not be provided with limits for planning and contracting operations, equipment, and other material resources.

So the distribution of planned profit in accordance with individual norms in the 12th Five-Year Plan is essentially the only possibility of implementing the self-financing mechanism under the conditions that have taken shape. By the beginning of the next five-year plan, when the startup levels of different enterprises should be equalized, primarily by price setting reform and a number of other measures, other approaches will also be possible, obviously. The future will indicate specifically which ones. But one thing is clear: very thorough scientific analysis of practice will be required for this. There are no norms that are scientifically substantiated right now; they are not being established on the basis of current tasks. In our view, accurate norms are the most important task of economic science.

It follows from everything that has been said that the sector's principal problem in working under self-financing conditions and the plans of the 12th Five-Year Plan drawn up before this is not the level of norms, which are secondary to a certain extent, but the limit of capital investments allocated to the Ministry of the Automotive Industry for this five-year plan. As calculations demonstrate, these funds are inadequate to carry out the tasks of production, scientific and technical, and social development set for the sector. Because the capital investments established for the five-year plan do not take into account a number of factors which lead to a higher price for equipment (additional payment for delivery in complete sets, more expensive imported

equipment, and so forth). At the same time, the reduction of capital investment limits by years takes place against a background of an increase in profit by enterprises.

The proportion of profit remaining at their disposal and the dynamics of it are determined by this as well.

Thus the question is often raised: the profit of enterprises increases, but the amount of capital remaining at their disposal decreases, and it reflects the overall dynamics of these indicators for the sector. True, this question was correct with respect to above-plan profit: it was really impossible to extend the same norms to it as to planned profit. But the situation has been corrected now. A single norm for the distribution of above-plan profit was introduced for everyone as of 1 January 1988: 30 percent to the budget and 70 percent for the collective.

But experience in 1987 has shown that the problems of self-financing often have been related to planned profit, rather than above-plan profit. A number of enterprises did not manage to acquire it. Both interruptions in work and penalties for nondelivery played a role here. For example, GPZ-8 [State Bearings Plant No 8] received only 15 million rubles in profit where the plan called for 28 million. The reasons: nonfulfillment of the production volume plan and, as a consequence, fines for non-delivery of output. The Leningrad Carburetor and Accessories Plant imeni Kuybyshev also lost a major part of its profit, which led to nearly the same result. At those enterprises which provide for fulfillment of the plan for profit, they receive above-plan profit and work proceeds much more successfully under self-financing conditions.

The Law on the State Enterprise (Association) has been in force since 1 January 1988. The enterprises in our sector, as well as other sectors, have received their state order. State production associations are being formed. All this gives rise to new questions and problems. One of them is the calendar sequence of payments. At present, an enterprise which is not operating steadily and has a difficult financial situation may be left without funds to pay for wages. For this reason, measures primarily to ensure enterprises' and associations' financial stability need to be studied thoroughly. To begin with, a significant increase in the level of economic work and improvement in planning, stock-taking, analysis, financing, organization of labor and wages, and the system of cost accounting. And one of the important proposals in this area, in our view, is the establishment of a sectorial financial credit and accounting center; funds for this can be put together expediently from enterprises' assets that are free temporarily and certain other sources. The center will utilize these funds to resolve problems common to the sector and for temporary financial aid to enterprises that are lagging behind (repayable with interest). In its turn, the center will pay interest for borrowing

enterprises' funds that are free temporarily. It will operate in close contact with the credit and accounting centers of the large associations—ZIL, VAZ, KamAZ, and so forth—that are being established.

But the main way to improve economic work is to improve cost accounting at all levels. Including cost accounting within a production facility. At the same time, one of the possible organizational forms of resolving this problem may be to set up a scientific-methods center to introduce cost accounting which will function on a self-financing basis. Its task would be to introduce cost accounting at the sector's enterprises, provide consultation, generalize experience, and work out new methods of organizing internal cost accounting.

A methods council on economic and planning problems has been created to improve the level of economic work in the sector. It will meet regularly, examine problems of planning methodology, wages, and record keeping, and will draft recommendations to improve cost accounting.

Implementation of all the measures mentioned to improve economic work will unquestionably become one of the factors in accelerating development of the automotive industry.

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RAIL SYSTEMS

Problems Impede October Railroad

18290066a Leningrad LENINGRADSKAYA PRAVDA
in Russian 5 Jan 88 p 2

[Article by October Railroad First Deputy Chief Yu. Kholodov under the rubric "A Precise Rhythm for the Transport Conveyor": "The Difficult Path Upward"]

[Text] Whatever joyous or alarming reports on the operations of the railroad lie on our desks, the railroad workers do not feel the rhythm of the mainline from them. Rather by the white heat of telephone calls, the quantity of letters, telegrams and teletype messages arriving from the shippers and recipients of freight. One can tell the situation on the railroads without fail from the "weight" of the correspondence. If it has increased, then it means that there has been a breakdown somewhere, that the transport conveyor has slowed. Then the already not-so-serene life of the control services becomes even more nerve-wracking and tense.

But today even this subjective "barometer" indicates "clear" more and more often. Far from the idea that everything is going smoothly. One cannot fail to note, however, the palpable changes that are occurring. The volume of passenger transport has already reached the level projected for the end of the five-year plan. The

railcar fleet is constantly being replenished. Last year the railroad received hundreds of them, and by the end of 1988 a considerable increase in the passenger fleet is planned. By way of comparison, recall that in the last five-year plan the annual addition did not exceed ten units.

The volume of shipping of freight for the national economy is growing steadily, the real loading of railcars is increasing, their handling is accelerating, the traffic schedule is being observed more precisely and labor productivity is growing.

There are still many breakdowns in operational work, of course. But the most important thing to be seen is that the stagnation typical of the country's rail transport overall and on the October Railroad in particular has been surmounted over the last two years. Many railroads proved to be in a neglected state, technological processes had become outmoded, they were not handling the operational volumes at the railcar and locomotive depots and the development of technical progress had slowed.

It is thus no accident that the CPSU Central Committee Politburo last year reviewed a proposal on the necessity of a radical technical retooling and modernization of the rail transport of the USSR. This issue is quite acute for us on the oldest railroad in the country. We are convinced that the sharp improvement of the state of affairs is possible only based on a fundamentally new approach to resolving production tasks. It is necessary first of all to expand the throughcapacity of the tightest bottlenecks on the railroad. The capital repair of almost 4,000 km [kilometers] of track and the start-up of about 400 km of electrified lines, 1,355 km of automated signaling and 708 km of centralized traffic control will take place over the five-year plan.

It is high-volume and complex work requiring the application of much manpower and many construction workers, as well as the railroad workers themselves. The most important thing, however, is that time is needed to complete them. And the national economy cannot wait while we instill order among ourselves. We must conduct the technical retooling at a more intensive rate and ensure the fulfillment of the state plan for freight and passenger shipments. How is this to be done if even the construction of new and the reinforcement of existing track does not raise the through capacity to the necessary dimensions? We are betting on running heavier and longer trains. There really is nothing clever in this—the locomotives can pull them. But not all stations can accommodate them, and not every line section is able to support the increased loading.

We have been able to raise the average weight of trains by almost 200 tons over the last two years. But the problems have become no less acute thereby.

The railroad constantly feels the shortage of boxcars. The acuity of the problem has declined somewhat with the placement of a modern railcar-repair complex into service at the Tosno station. The new facility is a unique structure, an enterprise with a high degree of mechanization. The restoration of wheel pairs and the depot repair and preparation of railcars under load is being done on the lines. For the first time in domestic practice, three enterprises with different functions—the depot, the railcar preparation station and the railcar wheel workshops—are located in a single unit.

During the training of the collective for work under the new conditions of economic operation, the so-called Belorussian method has received widespread dissemination. Its chief principle is the fact that the same work is done by a lesser quantity of people. Important herein is the fact that the entire economy of wages from the incorporation of measures to raise production efficiency remains at the disposal of the collective and can be utilized to raise the wage and salary scales. This supplementary income totals some twelve million rubles a year today.

We are looking attentively at every job. One place may require the incorporation of mechanization and automation. Another may require the functional redistribution of the duties of the individual. After all, much was done before according to the mold. An engineer and assistant were put into a diesel locomotive, and they were put into every vehicle. But the work is different. It is one thing to take a train across many hundreds of kilometers on a railroad with intensive traffic, and another to carry out shunting operations or service stretches of track where trains pass very rarely. Why are assistants needed here? One can manage completely without them. It would be worth it to supply teams with portable radios, since some 150 people would become unnecessary at once—an eighth of all yardmasters. The crossings were equipped with automated devices, and some 700 people were freed up at once.

There was much duplication, parallelism and paper generation in the management services. The structure of some departments was reviewed, and some of them were combined or abolished altogether. The administrative apparatus was considerably reduced. A material impact was achieved through combining professions and duties, expanding support zones, consolidating the workday and employing progressive standards, team forms of labor organization and making jobs more efficient.

Much has been done. But we are still far from a well-defined rhythm on the railroad. The passenger-train traffic schedules are often disrupted. Complaints regarding the low level of service and the poor sanitary and technical state of the railcars are not declining. The proper order has not been instilled in the sale of tickets.

The level of idle time of freight rolling stock is declining too slowly. The norms for railcar unloading times, including where we are at fault, are not being upheld.

We have not yet been able to find a reliable contact with our partners—the freight recipients. The rail sidings are being turned into warehouses on wheels at many enterprises. About a million rubles in fines were imposed by the railroad on its own clients alone last year. The return of rolling stock is constantly delayed by the Vtorchermet [State Trust for the Procurement and Processing of Secondary Ferrous Metals] Association, the Polymer-stroymaterialy [Polymer Building Materials] Plant, Department No 2 of Lenmetalloznabsbyt [Leningrad Metal Sales and Supply], the Fosforit Combine and a number of others that pay tens of thousands of rubles for their sluggishness with unusual ease rather than directing these funds toward improving their own facilities or expanding the workfront of loading and unloading operations.

They are moreover even being narrowed at a number of enterprises. The Ust-Izhora Plywood Combine, for example, tore up track accommodating 7 railcars and built additional plywood warehouse space instead. And railcar idle time went up here right away.

The railroad workers suffer great difficulties due to poorly thought-out systems for planning shipping at industrial enterprises. It is conducted without a regard for standard remains and product output. More freight is announced for shipment than there is. They reason that, well, the railroad will not give us the required quantity of railcars anyway, so we'll order some extras, and we'll get just what we need. The mistrust of the transport partner that took shape earlier is evidently still having an effect.

The enterprises unfortunately do not bear any material responsibility for this "sham" planning.

The further development of the transport conveyor is being slowed by the unsatisfactory state of our own track facilities. The requirements for rails, switches and track machinery and devices are not being provided for. The more intensive renewal of the locomotive fleet is required.

Some 5 percent of freight and 16 percent of passenger transport in the country falls to the share of our railroad. Reserves in traffic capacity are gradually disappearing, however. Opportunities to increase shipping volumes have not been exhausted, of course, but we must think about tomorrow as well. The acute necessity of creating a major sorting yard outside of Leningrad that would make it possible to reduce the flow of freight passing through the city has come to a head. The passenger stations are operating quite intensively today. The construction of another one—the Ladoga—is projected, and its start-up will make it possible to reduce passenger

traffic on the Moscow mainline. MPS [Ministry of Railways], however, is too slow in resolving these issues of vital importance to Leningraders. Matters are not moving forward.

Clearly insufficient funds are being allocated and there is not enough construction capacity to develop other major railroad stations and centers in our regions. That is why the fulfillment of the projected comprehensive program for intensifying the shipping process is being restrained.

Today it is still difficult to follow the upward path. But we must overcome this. This is where the collective of the October Railroad sees its duty.

12821

Center-South High-Speed Rail Line Project

18290066b Kiev RABOCHAYA GAZETA in Russian
17 Dec 87 p 1

[Report by project chief designer and Deputy Director of the All-Union Scientific Research Institute of Rail Transport [VNIIZhT] Doctor of Technical Sciences Yevgeniy Sotnikov: "The First High-Speed"]

[Text] *The development of plans for the first Center-South high-speed rail line in the USSR has begun. It will link Moscow with the Crimea and the Caucasus. Here is what Doctor of Technical Sciences Yevgeniy Sotnikov, chief designer of the project and deputy director of VNIIZhT, has to relate about it.*

The USSR has some experience in organizing high-speed traffic. As is well known, the ER-200 express has been running between Moscow and Leningrad for several years. It covers a distance of 650 kilometers in 4.5 hours, reaching speeds of up to 200 kilometers/hour. One material feature is the fact that the train takes conventional rather than special track which also takes other passenger and freight trains and suburban electric trains. And of course, it is difficult to reach higher speeds under such conditions.

The Center-South line will be completely new and specially constructed for high-speed traffic. The southern route is one of the most intensive arteries in the country. It passes through the center of the European portion of the USSR and the largest cities, uniting Moscow and the famous resorts of the Crimea and the Caucasus. The largest quantity of passengers is transported here.

One notes at first glance at a map that the future high-speed mainline will run parallel to the currently existing railroad to the Crimea and the Caucasus, about 30-40 away kilometers from it. From Moscow the trains to the south, as today, will be sent from Kursk Station, with just the difference that, first taking the old railroad, it will switch onto a new high-speed right-of-way after 60 kilometers. **The trains will move here at speeds of up to 350 kilometers/hour.** When approaching major cities, the

express will slow down and return to the track existing today. Taking on and discharging passengers, it will rush along the high-speed sections once more. **The passengers will reach Simferopol in five hours, and Sochi in eight.** This is several times faster than today.

It is being proposed that some 200 trains run along the high-speed electrified line at 15-20-minute intervals. This is quite sufficient to provide for the needs for passenger transport on this route, remove conventional passenger trains and thereby accelerate the shipment of freight along the existing railroad.

Scientific research institutions and organizations from 15 ministries and departments of the USSR are talking part in developing the plans for the new electrified line. The high-speed mainline will not be built on trestles, as has been done in some countries, but rather on the ground—it will be cheaper and safer that way. Train-traffic management will be accomplished from special railroad dispatcher stations.

Taking into account experience in the construction of similar railroads in Japan, France and other countries, Soviet specialists are making increased demands of the right-of-way itself—the track here will ideally be seamless. Thanks to rubber braces under the rails, the mainline will be practically silent. Passengers will be sent to the Crimea in well-appointed railcars with comfortable seats, and since trips to the Caucasus are longer, they will have sleeping berths. The expresses will be pulled by powerful locomotives. It is proposed that the rolling stock will be created by Soviet specialists in conjunction with Czechoslovak ones. The possibility of procuring high-speed railcars from foreign forms has also not been ruled out.

The construction of the new mainline is planned in stages. The laying of the lead experimental section from Moscow to Orel is planned at first, where track and rolling-stock testing will take place. The high-speed line will then extend to the next stretch. Trains will thus gradually run further and further south. The first high-speed train will come speeding into Simferopol in 1996, and into Sochi and Kislovodsk in 1999.

Although the construction of the high-speed mainline is valued at five billion rubles, it will be recouped over 4-5 years.

12821

Chekhov Metro Station Opens

18290066c Moscow PRAVDA in Russian 31 Dec 87 p 1

[Article by A. Yusin, Moscow: "Now There's a 'Chekhov'—A New Metro Station prepares to Receive Passengers"]

[Text] *Only a short time remains until the loudspeakers of the Moscow metro trains sound the words "Borovitso—next stop Chekhov." You can transfer here to the Pushkin and Gorkiy stations.*

While there was still time before the exciting and long-awaited moment, I went down to the Chekhov station along with the head of the staff coordinating the construction of the metro and developing the rail-transport center, Moscow City Ispolkom Deputy Chairman Yu.A. Shilobreyev. It was clean and quiet in the station. Like it is in homes where they are all ready for a holiday and the hosts are awaiting the guests. From time to time trains came in from Borovitsko and the announcer would say "Chekhov station—end of the line."

"The 135th station of the Moscow Metro, located under Pushkin Square, does not simply link the three stations and make up a 'literary main station,' but has also tied together three of the major lines—Gorkiy-Zamoskvoreche, Zhdanov-Krasnopresensk and Serpukhovo-Timiryazev," says Yuriy Aleksandrovich. "The construction of the Chekhov took place under difficult hydrological and geological conditions. The station was moreover built in a precious portion of the city. The presence of two neighboring stations—Pushkin and Gorkiy—also slowed the work rate appreciably. It is clear that the traditional explosive-drilling operations had to be modernized and 'broken down' into a series of small explosions, postponing some of the plan targets to nighttime when passengers were asleep. These difficulties, it seems, are behind us today. The metro builders, headed by Hero of Socialist Labor Yu.A. Koshelev, not only erected a beautiful station, but also to a considerable extent created conditions for easing passenger traffic on the Kakhov—Rechnyy Vokzal line. After all, before today the residents of Moscow that could come to the center from the Kakhov and the Sevastopol stations preferred the Kakhov, because it led to Gorkiy Street without transfers. There were too many people at rush hour. And the Sevastopol-Borovitsko line was not operating at full capacity. Today the traffic from the Prague, Southern and Chertanovo stations has also been evened out."

The formulation of the Chekhov station was accomplished according to the plans of artists Lyudmila and Petr Shorchev, stone engravers of the monuments and decorative arts combine. The first impression of the viewer and the passenger is that the station is very beautiful, austere and modest in the Chekhov style. For the first time in the metro, semi-precious stones were used in conjunction with marble. There are sixteen small and two wooden mosaic panels. At first glance, all of the compositions are illustrations from the works of A.P. Chekhov, but when you look more closely, you are seized by the idea that it is the spirit and not the substance of the Chekhov works that has been transferred to stone. One and the same woman with an umbrella in the rotunda can be perceived, depending on one's inclination, as the "Lady with a Small Dog," the heroine of "House with a Mezzanine," as one of the "Three Sisters"...

Only the composition "The Cherry Orchard," executed in onyx, lazurite and chalcedony, is devoted, it seems, to

a specific play. And however any one of us perceives Chekhov's writing, the mosaics under Pushkin Square familiarize all of us with the flourishing and life-affirming cherry orchard.

It seems that semi-precious stones have been gathered here from practically the whole country: Baykal and Central Asian lazurites, Urals stone, and jasper. Here is jade, and precious ophte, and rhodonite, and sky-blue lazurite which usually sparkles in anniversary items...

The trains head off into the tunnel, covering the first meters of the track to the next station of Tsvetnyy Boulevard. Metrostroy [Metro Construction] Chief Dispatcher V. Stroganov offers us the chance to take a short trip into the near future. We change into boots, waterproof coats and orange company helmets instead of hats. We head to the workface. There, where the vaults are held up by iron segments, it is dry, and in places where the rock is visible, there is frequently water coming out and running under our feet. Team leader D. Seliverstov shows us the main tunnel between Chekhov and Tsvetnyy Boulevard.

"The side tunnels have already been drilled, service accommodations and an underground eating area erected and a traction substation installed. The drilling of the inclined run to the escalators is being finished up. The Tsvetnyy Boulevard, Mendeleyev and Savelovskiy Vokzal stations should enter service within a year," he says. "It could be said that we, the tunnel workers, are not shoring up, but I choose the expression very carefully: we cannot shore up until we are supplied with segments."

The sessions of the city staff for coordinating metro construction have addressed the issue of the chronic shortage of segments more than once, but matters are not progressing. The voice of the workers from below ground has still not been heard in a number of ministries and departments. But it must be heard by all of those on whom the construction of the Moscow Metro depends. This most difficult task—putting 45 kilometers of metro lines into service in the 12th Five-Year Plan—can only be resolved by everyone together, and that means it is essential to increase the amount of construction and installation work by 2.5 times. The metro builders are ready to resolve this task. But they are being obstinately restrained by the suppliers and workers of related industries.

I do not want to conclude my New Year's Eve report on an alarming note. I thus report that yesterday, at Tsvetnyy Boulevard, an integrated team of tunnel workers of I. Sidorov set about installing iron structural roof elements. A new piece of equipment—a special tunnel layer—has come to help them. The team has taken on the obligation of erecting the station in just three months.

But here it is already time to turn back.

The last hours before the opening of the Chekhov. The vestibule of the new station is located under Strastnyy Boulevard. Here, next to the Rossiya Theater, the doors of the Chekhov swing open on the eve of the New Year.

12821

Inspector Cites Moscow Metro Problems

18290066d Moscow MOSKOVSKAYA PRAVDA in
Russian 29 Dec 87 p 2

[Article by MGK NK [Moscow City Committee People's Control] non-staff inspector B. Shokhin under the rubric "An Urgent Matter": "The Secret Aspects of the 'Underground Kingdom'"]

[Text] We have gotten accustomed to thinking that the metro means speed, comfort and cleanliness. And of course, first and foremost, order. Outwardly everything is as it should be: the sparkling lights of the stations, the rushing blue trains following the schedule. And naturally none of the passengers takes it into his head to be interested in how many of the cars have been through preventive inspection, and how many have not, or when the last track repairs took place.

But these are far from being idle questions. The instances uncovered by the organs of people's control testify to the fact that a darker side of the outwardly safe "underground kingdom" has taken shape.

Principal attention during monitoring was devoted to questions of traffic safety. Increasing instances of the breakdown of rolling stock, passenger complaints and public signals of shortcomings in the activity of various services of the capital's metro were the grounds for the monitoring.

Here are some figures. Some 1,896 instances of the postponement of train departures were recorded last year, and there were 1,353 over the first 10 months of 1987. Over the last two years, the number of breakdowns of rolling stock has increased by 1.8 times. Some 26 instances of fire were concealed by the responsible workers of metro services.

The statistics are not comforting. The causes of the failures herein, as emphasized in the monitoring materials, are frequently investigated in formalistic fashion, bureaucratically, from the office.

A specific example: trains are dispatched from the Sokol, Izmaylovo and Kaluga depots with flawed electric drives, and the number of defective cars at the Planer Depot has doubled. Trains on the Planer to Zhdanov track section run with defective speedometers.

The examples could be continued. It would be more useful, however, to analyze the reasons that lie at the heart of the unsatisfactory operation of the metro.

A good initiative—taking the trains under socialist safe-keeping—has not received the proper dissemination. The instructions of the procedure for official investigation and reporting of instances of violations of traffic safety is not being fulfilled everywhere. The inspectional service is not operating efficiently. The managers of the Severnoye and Zamoskvorechye depots have not fulfilled directives for months and bear no responsibility whatsoever for it.

The extremely lax attitude toward violators of labor discipline, drunkards and absentees is also surprising. In places where it is long since time to dismiss employees that have compromised themselves, the depot chiefs escape with reprimands, warnings and "directives."

Many directives and orders that are formally aimed at reinforcing discipline and order in the services are issued. Moscow Metro Chief Ye. Dubchenko personally signed a directive on steps for the realization of observations expressed by representatives of the train crews over the last two years. But 48 proposals advanced by the workers have yet to be realized.

The metro collective is suffering from a shortage of qualified personnel. In monitoring at the Severnoye Depot, for example, it turned out that the specialists called upon to track the good working order of the rolling stock before the departure of trains on the route did not know how to find elementary defects.

Production injuries in the track service, substations, networks and escalators are increasing due to the absence of proper discipline and unsatisfactorily arranged operations for technical safety along with a lack of the essential knowledge by technical personnel. It grew by 20 percent in the rolling stock service this year alone.

The commission of the city committee of people's control only monitored a few depots, which of course does not give a complete picture. And even the selective monitoring visibly demonstrates that the capital metro has made a sharp retreat. The extant situation is rife with serious consequences. Where an uncontrolled climate is created, accidents are not far behind.

And what of the metro management, how does it operate? It must be acknowledged: it presses on with orders and "directives."

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